Interstate 405 at Arbor Vitae Street
New South Half Interchange Project

LOS ANGELES COUNTY, CALIFORNIA
DISTRICT 7 – LA – 405 (PM 22.2/23.4)
491600

DRAFT Environmental Assessment/Initial Study (EA/IS)
With Proposed Mitigated Negative Declaration

Prepared by the
State of California Department of Transportation

The environmental review, consultation, and any other action advised in accordance with applicable Federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

Caltrans

December 2009

SCH#21000061039
I-405 LA PM 22.2/23.4
EA 491600

The State of California Department of Transportation proposes to construct a New South Half Interchange, on Interstate 405, from approximately Arbor Vitae Street to Century Boulevard, postmile 22.2 to postmile 23.4, in the City of Inglewood, CA.

DRAFT INITIAL STUDY/ENVIRONMENTAL ASSESSMENT WITH PROPOSED MITIGATED NEGATIVE DECLARATION

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C), 23 USC 327

The environmental review, consultation, and any other action proposed in accordance with applicable Federal laws for this project is being, or has been carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

THE STATE OF CALIFORNIA
Department of Transportation

Dec 10, 2009
Date of Approval

Ron Kosinski
Deputy District Director
Division of Environmental Planning District 7
California Department of Transportation

PROPOSED MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description/Location:

I-405 at Arbor Vitae Street New South Half Interchange Project

The California Department of Transportation ("Caltrans") proposes to construct a new south half interchange on Interstate 405 at Arbor Vitae Street, which would include a new southbound on-ramp and a northbound off-ramp. The new ramps would span approximately from Arbor Vitae Street to Century Boulevard. The project also entails widening the existing Arbor Vitae Street overcrossing bridge from 78 feet to 90 feet. To provide the necessary space for the new Arbor Vitae Street northbound off-ramp, the northbound Century Boulevard collector separation structure (Century Collector OC) will be replaced.

Determination

This proposed Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that it is the Caltrans' intent to adopt a Mitigated Negative Declaration for this project. This does not mean that the Caltrans' decision regarding the project is final. This MND is subject to modification based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project, and pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:

The proposed project would have no effect on:
Farmland/Timberlands, Mineral Resources, Growth, Traffic and Transportation, Pedestrian and Bicycle Facilities, Cultural Resources, Hydrology and Floodplain, Water Quality and Storm Water Run-off, Paleontology, Air Quality, Natural Communities, Wetlands and Other Waters, Plant Species, Animal Species, Threatened and Endangered Species, Invasive Species and Cumulative Impacts.

In addition, the proposed project would have no significant impacts under CEQA on:
Land Use, Community Resources – Community Character and Cohesion, Utilities/Emergency Community Services, Visual/Aesthetics, Geology/Soils/Seismic Topography, and Hazardous Materials. The proposed project would have no significantly adverse effect on Community Impacts – Relocations, Community Impacts, Visual/Aesthetics, and Noise and Vibration would not be significant after mitigation.

a) Homes and businesses taken for right of acquisition will be compensated at Market Value and relocation costs.
b) Visual/Aesthetic impacts will be mitigated to a level below significance, using Caltrans Best Management Practices in Landscape Architecture.
c) Noise and Vibration will be mitigated to below significance by implementing Caltrans' Best Management Practices during Construction and with the early construction of two sound walls.

_____ _____

Ron Kosinski Date
Deputy District Director
Division of Environmental Planning District 7
California Department of Transportation

SUMMARY

The California Department of Transportation ("Caltrans") proposes to construct a new south-half interchange on the I-405, at Arbor Vitae Street, in the City of Inglewood. The new half interchange would provide a new southbound on-ramp to the I-405 from Arbor Vitae Street, as well as, a new northbound off-ramp from the I-405 to Arbor Vitae Street. This would create, from the I-405, a new direct vehicle access to and from the Hollywood Park Casino, the University of West Los Angeles, the Forum, and Centinela Hospital. If the project is approved, construction is tentatively scheduled to begin in Spring 2013, and end in Spring 2015.

Traffic studies have identified heavy congestion on the segment of the I-405 within, and adjacent to, the project limits. The project's purpose is to reduce congestion at the Century Boulevard and Manchester Boulevard interchanges by creating along Arbor Vitae Street, from the I-405, a new direct vehicle access to and from the Hollywood Park Casino, the University of West Los Angeles, the Forum, and Centinela Hospital.

The project would result in the following impacts to the community and existing built infrastructure:

- The removal and reconstruction of the Century Boulevard collector structure (Century Collector OC).
- The acquisition of 7 parcels and 9 homes for right of way needed to construct the southern half of the interchange.
- The existing Arbor Vitae Street Overcrossing will be widened from 78 feet to 90 feet.

As discussed in the body of this document, there would be various permanent impacts associated with the Build Alternative. In addition, short-term impacts associated with construction such as noise, dust, and roadway access, as well as, closure issues around the construction site. This document discusses measures to minimize these impacts. These construction-related impacts would not be permanent.

Summary of Impacts. The table on the following page summarizes the project-related impacts to the Human, Physical, and Biological Environment. Please refer to the appropriate section and discussion for more details and avoidance, minimization, and/or compensation measures planned for any project-related impacts.

Currently Considered Alternatives		
HUMAN ENVIRONMENT	**ALTERNATIVE 1 (NO-BUILD)**	**ALTERNATIVE 2 (BUILD)**
Land Use	No impact on existing land uses of built-out, urbanized environment.	Minimal impact on existing land uses of built-out, urbanized environment with takings of 9 residences, 1 pest control business, and 1 commercial office.
Growth	This project is not anticipated to induce growth beyond existing projections.	This project is not anticipated to induce growth beyond existing projections.
Community Impacts	None.	1) Temporary traffic/circulation impacts related to construction. 2) Seven full takes of properties (9 residences, 1 pest control business, 1 commercial office).
Utilities, Community Facilities and Emergency Services	None.	Temporary traffic/circulation impacts related to construction.
PHYSICAL ENVIRONMENT	**ALTERNATIVE 1 (NO-BUILD)**	**ALTERNATIVE 2 (BUILD)**
Hydrology and Floodplain	None.	Construction of south half interchange structure will not encroach upon any water bodies or floodplains.
Water Quality and Stormwater	None.	No impacts on water quality or stormwater were identified as a result of the construction of the half interchange.
Geology/Soils/Seismic/Topography	No adverse impacts have been identified.	No adverse impacts have been identified.
Hazardous Waste/Materials	None.	No properties of concern next to Caltrans right-of-way identified as having potential impacts during construction.
Air Quality	None.	No adverse impacts have been identified.
Noise	None.	1) Future noise levels after completion of the project are anticipated to decrease by 1 decibel with the addition of 2 soundwalls. 2) Temporary increase in noise levels during construction, but these impacts are mitigable.
Natural Communities	No adverse impacts have been identified.	No adverse impacts have been identified.
Wetlands and Other Waters	No adverse impacts have been identified.	No impacts on wetlands and other waters were identified as a result of the construction of the half interchange.
Plant Species	No adverse impacts have been identified.	No adverse impacts have been identified.
Animal Species	No adverse impacts have been identified.	No adverse impacts have been identified.
Threatened and Endangered Species	No adverse impacts have been identified.	No adverse impacts have been identified.

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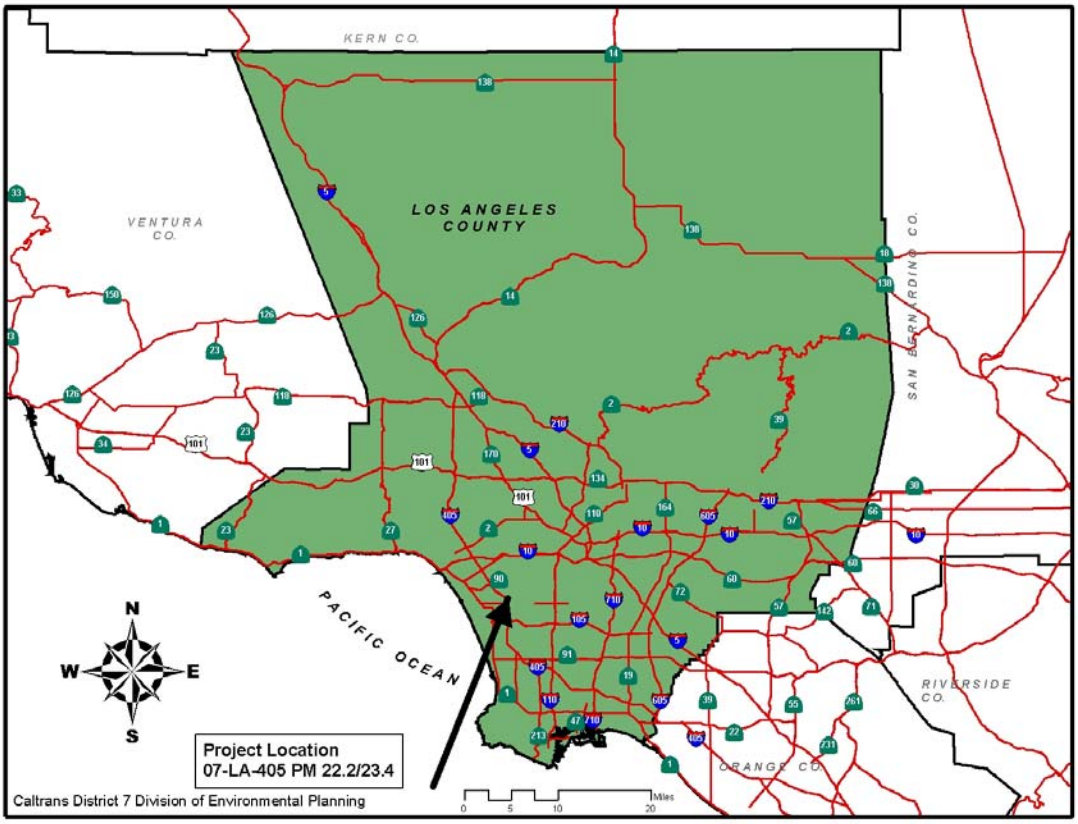
The Interstate 405 (San Diego Freeway)/Arbor Vitae Street Half Interchange Project

1.1 INTRODUCTION

1.1.1 CURRENT PROJECT

The Interstate Route-405 (I-405), also known as the San Diego Freeway, is an interstate/interregional commuter freeway that originates at Interstate Route-5 (I-5), in the City of Irvine, in Orange County, and ends at I-5 near the community of Mission Hills in the City of Los Angeles, the County of Los Angeles. I-405 is part of the National Highway System and is a north/south route that is classified as an Urban Principle Arterial. This freeway traverses in a north-south direction within the project study area, serving the Cities of Los Angeles and Inglewood in Los Angeles County. Interstate Route-105 (I-105), also known as the Century Freeway, is an interstate/interregional commuter freeway that originates at West Imperial Highway in El Segundo, the County of Los Angeles, and ends at Interstate 605 (I-605) in the City of Norwalk in the County of Los Angeles. Interstate 105 traverses in an east-west direction less than a mile south of the project study area, serving the Cities of Los Angeles, Inglewood and Hawthorne and the communities of Del Aire and Lennox in Los Angeles County.

Figure 1-01. Regional Project Location



Map created by Sarah Berns/Caltrans District 7 Division of Environmental Planning

The California Department of Transportation ("Caltrans") proposes to construct a new south-half interchange on the I-405, at Arbor Vitae Street, in the City of Inglewood. The new half interchange would provide a new southbound on-ramp to the I-405 from Arbor Vitae Street, as well as, a new northbound off-ramp from the I-405 to Arbor Vitae Street. This would create, from the I-405, a new direct vehicle access to and from the Hollywood Park Casino, the University of West Los Angeles, the Forum, and Centinela Hospital. **If the project is approved, construction is tentatively scheduled to begin in Spring 2013, and end in Spring 2015**.

Figure 1-02. Vicinity Project Location

Map created by Tim Baker/Caltrans District 7 Division of External Affairs

Caltrans has two (2) project alternatives, one (1) of which is the half-interchange at Interstate 405/Arbor Vitae Street, under consideration. The other alternative is the No-Build Alternative.

1.1.2 PROJECT HISTORY

The Interstate 405/Arbor Vitae Street Interchange Project was initiated by Los Angeles World Airports (Los Angeles Department of Airports at the time) in 1976 to provide an alternate East-West access route between I-405 and the Los Angeles International Airport. This project was part of a larger project proposed in 1980 and scheduled to be constructed in 1984. However, the Arbor Vitae Interchange has been postponed multiple times due to funding considerations. The current version of the project entailing the south half of the interchange and widening of the Arbor Vitae Bridge was going to be constructed in 2002. However, the delivery of this project was postponed for three reasons: First, opposition from local residents, who live adjacent to the proposed project, and the Inglewood Unified School District Board was prevalent during the public comment periods; second, the Southern California Association of Governments (SCAG) did not support the construction of the full interchange, and led to the current south half version of the interchange. Third, the Federal Highway Administration (FHWA) would only approve an environmental document that includes the full interchange. It lacks support from local elected officials. At this time, this project is programmed through the Project Approval/Environmental Document [PA/ED] phase (the current phase). There is only partial funding currently programmed for the construction of this proposed project; an additional $37 million is needed to construct this project. If approved, the project will be funded from the State Transportation Improvement Program (STIP) and the Regional Transportation Improvement Program (RTIP).

Figure 1-03. Arbor Vitae Project Map

Map created by Khanh Nguyen/Caltrans District 7 Division of Project Development and Laura Venaskie/Galvin Preservation Associates

1.2 THE PROPOSED PROJECT: PURPOSE AND NEED

1.2.1 INTRODUCTION OF PURPOSE

Traffic studies have identified heavy congestion on the segment of the I-405 within, and adjacent to, the project limits. The project's purpose is to reduce congestion at the Century Boulevard and Manchester Boulevard interchanges by creating along Arbor Vitae Street, from the I-405, a new direct vehicle access to and from the Hollywood Park Casino, the University of West Los Angeles, the Forum, and Centinela Hospital.

1.2.2 DISCUSSION OF PURPOSE

The construction of the proposed I-405/Arbor Vitae New South Half Interchange is intended to:

- Alleviate existing and future recurring congestion at two adjacent interchanges on Interstate 405 (Century Boulevard interchange and Manchester Boulevard interchange).
- Provide direct vehicle access to the University of West Los Angeles located west of Interstate 405, and Hollywood Park Casino, the Forum, and Centinela Hospital, east of Interstate 405.

The proposed new south half interchange will relieve congestion at the existing adjacent interchanges located at Century and Manchester Boulevards. Without increasing I-405 mainline capacity, the project will reduce travel times on the collector-distributors and local streets, within and around the project study area.

1.2.3 DISCUSSION OF NEED

The I-405 freeway is the only north-south freeway west of downtown Los Angeles. Therefore, the I-405 is the only freeway to connect the South Bay Region, the San Fernando Valley, and the Westside of Los Angeles. The mobility of these portions of Los Angeles County depend upon the I-405. In 2007, the I-405 freeway carried an average of 159,000 vehicles per day of northbound and southbound traffic in the vicinity of the Arbor Vitae Overpass. By 2035, this number is expected to increase to 196,000 vehicles per day. This project will not increase the existing I-405 mainline capacity. However, the new south half interchange will relieve the congestion on the existing ramps at Century and Manchester Boulevards and may result in a reduced number of accidents in the segment of I-405 within the project study limits (postmile 22.2/23.4) according to the Draft Project Report.

The following discussion summarizes the present and future conditions of the existing I-405 project area between Century Boulevard and Arbor Vitae Street, which justifies the need for action. One project alternative has been identified to meet the purpose and need. If no improvements are made, the project area's section of I-405 will face increasing congestion and increase travel times on Century and Manchester Boulevards and their interchanges, and adjacent local streets.

Congestion (Improvements to Operation, Capacity, and Traffic Flow). Traffic studies indicate that heavy congestion exists during weekday morning, mid-day, and evening peak hours as well as on weekends on the stretch of Interstate 405 within and adjacent to the project limits. Weaving and merging of traffic on the freeway, collector-distributors, and ramps further aggravate the resulting stop-and-go traffic conditions. Motorists from Interstate 105 traveling to the northbound I-405 are unable to use the Interstate 405 northbound off-ramp to Century Boulevard to access LAX. This deficiency further compounds the congestion at the Manchester Boulevard interchange.

Safety Issues (Accident Rates at Project Segment versus the State Average). Accident rates for a three-year period were compared to the statewide average rate for similar facilities using the

Traffic Accident Surveillance and Analysis System (TASAS). The three-year period extended from October 1, 2004 to September 30, 2007. For the mainline of I-405, these rates and comparisons for the project study area are summarized below in Table 1 Accident Rate Data for Interstate 405 Mainline and in Table 2 Summary of Accident Rate Data for Interstate 405 Collectors and Ramps.

Table 1 indicates that actual accident rates in the northbound direction were 0.78 accidents/million vehicle miles (MVM) higher than the state average – an actual rate of 2.17 accidents/MVM compared with the average of 1.39 accidents/MVM.

Table 1. Accident Rate Data for I-405 Mainline

TASAS Selective Accident Rate Calculation for Interstate 405 Mainline							
Facility	Accident Rate						Number of Accidents Total
	Actual (Accidents /MVM)			Average (Accidents/MVM)			
Segment Description	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total	
Northbound Interstate 405	0	0.66	2.17	0.007	0.44	1.39	420
Southbound Interstate 405	0.005	0.27	0.67	0.007	0.44	1.39	133

Source: TASAS Selective Record Retrieval for the period of October 1, 2004 to September 30, 2007

Table 2. Accident Rate Data for I-405 Collectors and Ramps

TASAS Selective Accident Rate Calculation for Interstate 405 Collectors and Ramps							
Facility	Accident Rate						Number of Accidents Total
	Actual (Accidents /MV)			Average (Accidents/MV)			
	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total	
Collectors							
Northbound Onramp from Eastbound Century Boulevard	0	0	0.45	0.001	0.24	0.7	6
Segment of Northbound Collector North of Century Boulevard	0	0.06	0.15	0.002	0.1	0.35	5
Segment of Northbound Onramp from Westbound Century Boulevard	0	0.62	1.25	0.003	0.22	0.6	8
Northbound Offramp for Manchester/La Cienega Boulevards	0	0.12	0.32	0.006	0.33	0.9	11
Segment of Northbound Collector from Century to Manchester Boulevard	0	0.1	0.36	0.002	0.1	0.35	15
Southbound Offramp to Century Boulevard	0	0.07	0.21	0.002	0.08	0.25	8
Ramps							
Segment of Southbound Onramp from South of Century Boulevard	0	0.2	0.79	0.002	0.2	0.6	8
Northbound Offramp to Century Boulevard	0	0.17	0.75	0.005	0.61	1.5	13
Southbound Onramp from Olive/Manchester Boulevards	0.06	0.48	1.27	0.002	0.2	0.6	21
Segment of Southbound Offramp to Eastbounb Century Boulevard	0	0.23	0.93	0.004	0.28	0.8	8
Segment of Northbound Offramp to Manchester Boulevard	0	0.38	0.92	0.005	0.61	1.5	17

Source: TASAS Selective Record Retrieval for the period of October 1, 2004 to September 30, 2007

According to the Traffic Analysis Surveillance and Analysis System (TASAS) Selective Record Data, 420 accidents occurred on the northbound portion of I-405 and 133 accidents occurred on the southbound mainline I-405, within the project study limits. Additionally, 51 accidents occurred on the freeway collectors and 67 accidents occurred on the freeway on- and off-ramps. Of the 671 total accidents that occurred during the three-year period, 59 percent were rear-end collisions, 16 percent were accidents due to hitting an object, 20 percent were sideswipe accidents, 3 percent were broadside accidents, 2 percent were overturned vehicles, and 1 percent was the result of other types of accidents. The primary collision factor for accidents was congestion-related, rear-end collisions or sideswipes. The total accident rate record from July 1, 2004 to June 30, 2007 reveals actual accident rates higher for the mainline I-405 freeway than the state average for similar facilities (1.24 accidents per million vehicles compared to the state average of 1.09 accidents per MVM, respectively). Also, two (2) freeway collectors, two (2) on-

ramps, and one (1) off-ramp within the project limits had actual accident rates higher than the statewide average accident rate for similar facilities. Implementation of Build Alternative 2 (Arbor Vitae Street New South Half Interchange) will reduce traffic congestion and may decrease the accident rates on the I-405 freeway system in the project vicinity.

Roadway Capacity and Level of Service in the Project Area

Existing Freeway Mainline Volume. A Traffic Analysis Report was prepared by Caltrans Traffic Operations staff. They analyzed twenty-five access and freeway connector ramps in the project area. I-405, within and adjacent to the project limits, currently operates at or beyond capacity, and will likely require improvements as travel demand and congestion is only expected to increase throughout the coming years. Weaving and merging of traffic on the freeway, collector-distributors, and ramps further aggravate the existing stop-and-go traffic conditions. Motorists from I-105 traveling to the northbound I-405 are unable to use the Interstate 405 northbound off-ramp to Century Boulevard to access LAX. This deficiency further compounds the congestion at the Manchester Boulevard interchange. AM Peak Traffic volume on northbound I-405 was 11,120 vehicles/hour (veh/hr) in 2007 and is projected to increase to 13,359 veh/hr in 2035, while PM Peak traffic volume on northbound I-405 was 10,201 veh/hr in 2007 and is forecasted to increase to 12,418 veh/hr in 2035. Traffic volume on Southbound I-405 during the AM Peak was 8,161 veh/hr in 2007 and projected to increase to 9,934 veh/hr in 2035, while PM Peak Traffic Volume on southbound I-405 was 9,691 veh/hr and is forecasted to increase to 11,797 veh/hr in 2035. The proposed pavement structural section is based on a Traffic Index of 14.The nearest location where truck traffic was measured was at the Junction of Interstate 405 and Interstate 105 in the Westchester community of the City of Los Angeles at Postmile (PM) 21.18 along Interstate 405. On leg A (ahead of intersection), 4.12 %, or 13,019 of the 316,000 Average Annual Daily Traffic (AADT) is truck AADT. Also, on leg B (back of intersection), a slightly higher percentage, 4.63 %, or 11,251 of the 243,000 Average Annual Daily Traffic (AADT) is truck AADT. Near the southern edge of the project boundary, along Interstate 405 in the City of Inglewood at the Century Boulevard overpass (PM 21.18), the peak hour Average Daily Traffic (ADT) is 20,300 vehicles. At the northern edge of the project boundary, at Manchester Boulevard in the City of Inglewood (PM 23.36), the peak hour Average Daily Traffic (ADT) is 17,400 vehicles, substantially less than the ADT at Century Boulevard.

Figure 1-04. Level of Service for Freeways

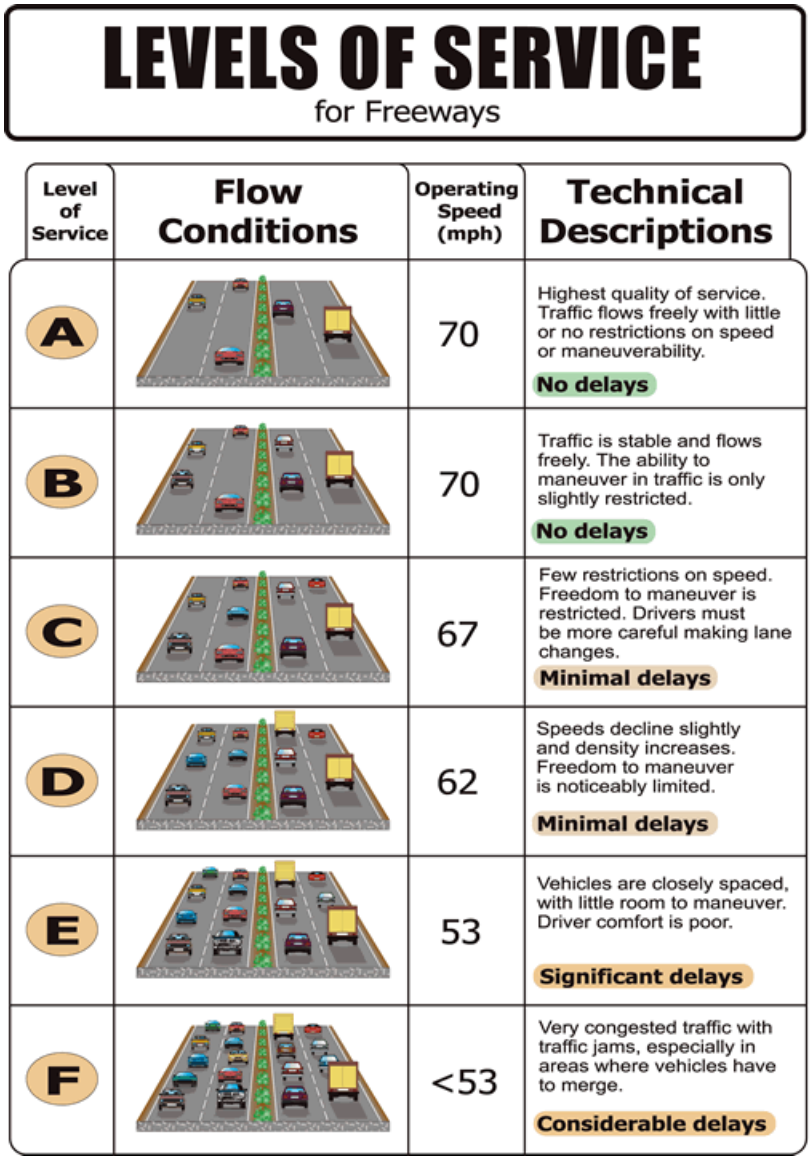


Table 3. Level of Service (LOS) and Density

LOS	Density Range (pc/mi/ln)
A	0-11
B	>11-18
C	>18-26
D	>26-35
E	>35-45
F	>45

Source: Highway Capacity Manual (HCM) 2000,
Chapter 23 – Basic Freeway Segments
Pc/mi/ln = passenger cars per mile, per lane

Existing Access and Freeway Interchange Level of Service (LOS) in the Project Area. Basic freeway segments within the study area have been analyzed, using capacity and Level of Service (LOS) concepts from the Highway Capacity Manual (HCM) 2000, Chapter 23 – Basic Freeway Segments. The measure used to provide an estimate of level of service is density, where density is calculated from the average vehicle flow rate per lane and the average speed. The LOS for basic freeway segments have been summarized above in Figure 1-04. The Century Boulevard and Manchester Boulevard ramp interchanges LOS grades will deteriorate without the construction of the Arbor Vitae Street New South Half Interchange. In 2007, the northbound I-405 off-ramp to Century Boulevard had an AM (12am to 11:59am) grade C LOS and a PM (12pm to 11:59pm) grade B. In 2035, under the No-Build Alternative 1 scenario, the AM LOS will deteriorate to grade D, while the PM LOS grade will remain at grade B for PM LOS for the northbound off-ramp to Century Boulevard. However, under Alternative 2 where the I-405/Arbor Vitae Street New South Half Interchange is constructed, the AM LOS will improve to grade B and the PM LOS will improve to grade A for the northbound I-405 off-ramp to Century Boulevard. The northbound off-ramp to Manchester Boulevard will see the AM LOS improve from grade E in 2007 to Grade C in 2035 with Alternative 2, while the LOS would decrease to grade F in 2035 under Alternative 1. For the PM LOS for the northbound off-ramp to Manchester Boulevard, the grade would decrease from D in 2007 to E in 2035 under Alternative 1 but improve to grade B under Alternative 2. This illustrates how the build Alternative 2 would help improve Level of Service in the project area.

Table 4. Mainline Freeway I-405 (ADT & AM/PM Peak Hourly Volumes) – Existing Condition

	Location	2007		
		AM	PM	ADT
1	NB Rte. 405 collector-distributor	3,622	2,449	34,786
2	NB off-ramp to Century Blvd.	1,531	939	16,118
3	NB on-ramp from EB Century Blvd.	766	857	11,426
4	NB on-ramp from WB Century Blvd.	633	409	6,325
5	NB Rte. 405 collector-distributor/off-ramp to Manchester Blvd. and La Cienega Blvd.	2,602	2,143	34,480
6	Slip ramp between NB 405 collector-distributor and NB off-ramp to Manchester Blvd.	1,633	908	13,568
7	NB off-ramp to Manchester Blvd.	1,531	980	17,852
8	NB on-ramp from EB Manchester Blvd.	582	449	6,223
9	NB on-ramp from WB Manchester Blvd.	1,021	623	10,201
10	SB on-ramp from La Cienega Blvd.	2,347	1,990	24,177
11	SB on-ramp from La Cienega Blvd./Olive Ave.	1,010	1,072	15,404
12	SB Rte. 405 collector-distributor	1,123	2,092	17,342
13	SB off-ramp to WB Century Blvd.	847	715	15,098
14	SB on-ramp from WB Century Blvd.	378	470	4,795
15	SB off-ramp to EB Century Blvd.	225	480	4,183
16	SB on-ramp from EB Century Blvd.	562	725	10,099
17	SB on-ramp from Arbor Vitae St.	0	0	0
18	NB off-ramp to Arbor Vitae St.	0	0	0
19	SB Route 405 (N/O Jct Rte. 105)	8,161	9,691	158,626
20	NB Route 405 (N/O Jct Rte. 105)	11,120	10,201	158,626
21	SB Route 405 (N/O Century Blvd.)	7,957	9,589	155,566
22	NB Route 405 (N/O Century Blvd.)	10,916	9,997	155,566

ADT = Average Daily Traffic, 2007
Source: Caltrans District 7 Office of Freeway Operations

LOS grade F occurs when queues begin to form on the freeway. Density (expressed as passenger cars per mile, per lane, or pc/mi/ln) tends to increase sharply within the queue and may be considerably higher than the maximum density value of 45 pc/mi/ln listed for LOS grade

F. The results of the project study area for the freeway mainline facilities are summarized in Tables 5 and 6 below.

Table 5. Northbound I-405 Mainline Level of Service (LOS) and Density (Volume/Capacity)

			AM Peak		PM Peak	
Segment Description	Segment Type	Lanes	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Northbound Interstate 405 North of Manchester Blvd Onramp	Basic	4	36.2	E	33.2	D
Northbound Interstate 405 North of Interstate 105	Basic	4	35.3	E	30.8	D
Northbound Interstate 405 North of Century Boulevard	Basic	5	34.2	D	30.0	D

Note: Level of Service (LOS) based on HCM 2000 analysis methodology for 2007
Pc/mi/ln = passenger cars per mile per lane

Table 6. Southbound I-405 Mainline Level of Service (LOS) and Density (Volume/Capacity)

			AM Peak		PM Peak	
Segment Description	Segment Type	Lanes	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Southbound Interstate 405 Middle Lane South of Interstate 10	Basic	5	27.9	D	35.9	E
Southbound Interstate 405 North of Interstate 105	Basic	5	43.2	E	>45	F
Southbound Interstate 405 North of Century Boulevard	Basic	5	40.6	E	>45	F

Note: Level of Service (LOS) based on HCM 2000 analysis methodology for 2007
Pc/mi/ln = passenger cars per mile per lane

For a more in-depth discussion of traffic data within the project study area, please refer to Section 2.1.5, titled “Traffic and Transportation/Pedestrian and Bicycle Facilities.”

SOCIAL DEMANDS AND ECONOMIC DEVELOPMENT

The project would improve economic vitality to the surrounding communities by providing direct vehicle access to the University of West Los Angeles (west of Interstate 405), Hollywood Park Casino, the Forum and Centinela Hospital (east of Interstate 405). Vehicle congestion will be reduced along Century and Manchester Boulevards and along their on-ramps and off-ramps as drivers utilize the Arbor Vitae New South Half Interchange’s southbound off-ramp and northbound on-ramp. Safety along these corridors will be improved as well. Overall, the I-405/Arbor Vitae New South Half Interchange will improve mobility and accessibility to west Los Angeles County’s primary north-south freeway and serve as a benefit to the surrounding communities and future land use goals.

The Project Within the Context of the Transportation System, Existing Land Use Planning, and Regional Growth. The City of Los Angeles Department of City Planning has developed the transportation element of the general plan in conjunction with the 35 communities that make up the city planning area. The goal of the transportation plan is to present a code for further development of a citywide transportation system which provides for the efficient movement of people and goods (City of Los Angeles 1997). It also recognizes that the primary emphasis must be placed on maximizing the efficiency of existing and proposed transportation infrastructure, in which the I-405/Arbor Vitae Street New South Half Interchange is completely consistent with.

Accommodation of future growth is also a high priority for the City of Los Angeles (growth projections are referenced in the Growth section of this document). While accommodating future residential growth is a high priority, it is just as important to ensure quality of life in vibrant and livable neighborhoods. Constructing the new south half interchange at I-405/Arbor Vitae Street is likely to assist in reducing congestion along Century Boulevard and Manchester Boulevard, adjacent local streets, and neighborhoods: The project will aid in achieving city goals in improving circulation in the surrounding neighborhoods, creating safer, pedestrian-oriented environments, accommodating new growth, and provide direct access to Los Angeles International Airport (LAX).

The City of Inglewood has developed a circulation element in its 2006 Update to its General Plan. The goal of the circulation element is to lay the groundwork for and promote the development of a coordinated, multi-modal citywide transportation system to meet the needs of all people living, working, or visiting the City and all economic segments of the community. The circulation element's purpose is to set forth strategies to support the production of a circulation system consistent with the overall vision specified for the City of Inglewood that includes; a well functioning transportation system in the City of Inglewood, which is vital.

Most Caltrans capacity-increasing projects are proposed as a response to traffic congestion that is a result of growth that has already occurred or will soon occur. The I-405/Arbor Vitae Street New South Half Interchange Project does not have the potential to adversely induce growth beyond current regional growth projections because of the highly urbanized setting in the project location and a predominantly built-out environment. For more detailed discussion of growth, please refer to Section 2.1.2 of this Environmental Assessment/Initial Study, entitled "Growth."

Projected Land Use Planning Changes in the Area. The project study area is primarily a built-out environment with limited possibilities in land use zoning changes and little room for geometrical improvements at or near the proposed new south half interchange location. At great expense and inconvenience for residents, employees, business owners, and motorists, the Century and Manchester Boulevards interchanges and overpasses could be reconstructed and widened simultaneously with the widening of the Interstate 405 freeway. However, the new south half interchange construction has been determined to be a more feasible alternative. For a more in-depth discussion on land use planning within the project study area, please refer to Section 2.1.1 of this document titled "Land Use and Planning."

1.2.4 IS THE PROPOSED PROJECT A COMPONENT OF A LARGER PROJECT?

The proposed LA405/Arbor Vitae Street New South Half Interchange Project will relieve congestion at the existing adjacent interchanges located at Century and Manchester Boulevards. Without increasing I-405 mainline capacity, the project will reduce travel times on the collector-distributors and local streets, within and around the project study area. This project is an independent project that is not related to any other Caltrans project. Funding for a full interchange project would not be available and thus the new south half interchange at Arbor Vitae Street was proposed. The project has a Purpose and Need that cannot be fulfilled by any other Caltrans project. In addition, the proposed project begins on Interstate 405 from the Century Boulevard interchange and ends at the Arbor Vitae Street Overpass. This Environmental Assessment/Initial Study analyzes the entire project area, and is, in no way dependent on the environmental document or mitigation proposals of any other project. Lastly, the proposed project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Therefore, based on the above and pursuant to 23 CFR 771.111(f), this project has independent utility and logical termini.

Other Caltrans Improvement Projects on Interstate 405

EA 1178U1 | Southbound & Northbound Interstate 405 Carpool Lane
Mile Marker: 25.9/29.5
Construct carpool lane from Route 90 to Interstate 10
Construction: 10/2004-3/2010

EA 120300 | Northbound Interstate 405 Carpool Lane
Mile Marker: 28.8/39.0
Construct carpool lane from National Boulevard to Greenleaf Street
Construction: 5/2009-4/2013

EA 1667U4 | Southbound Interstate 405 Carpool Lane
Mile Marker: 31.9/39.7
Construct southbound carpool lane
Construction completed

EA 191004 | Northbound Interstate 405 Auxiliary Lane
Mile Marker: 37.0/39.0
Add auxiliary lane from Mulholland Drive
Construction completed

EA 191304 | Northbound Interstate 405 to Southbound US Route 101 Widening
Mile Marker: 39.0/39.4
Widen northbound I-405 to southbound US-101 connector
Construction completed

EA 195903 | Southbound Interstate 405 Carpool Lane
Mile Marker: 29.8/32.1
From I-10/I-405 Interchange to Waterford Street
Add auxiliary lane, add carpool lane
Construction completed

EA 199611 | Southbound Interstate 405 to US-101 Connector Improvement Project
Mile Marker: I-405: 39.4/40.5, US-101: 17.0/19.4
From southbound I-405 to North and southbound US-101 Freeway
New two-lane 50 miles per hour connector and bridge structure over Sepulveda Dam
Construction: 12/2013-3/2017

EA 199624 | Northbound Interstate 405 Carpool Lane
Mile Marker: 38.8/40.1
Construct carpool lane from Greenleaf to Burbank Boulevard
Construction completed

EA 201203 | Northbound Interstate 405 Gap Closure
Mile Marker: 38.7/39.4
Carpool gap closure with structure
Construction completed

1.3 THE PROPOSED PROJECT: PROJECT DESCRIPTION

The California Department of Transportation ("Caltrans") proposes to construct a new south-half interchange on the I-405, at Arbor Vitae Street, in the City of Inglewood. The new half interchange would provide a new southbound on-ramp to the I-405 from Arbor Vitae Street, as well as, a new northbound off-ramp from the I-405 to Arbor Vitae Street. This would create, from the I-405, a new direct vehicle access to and from the Hollywood Park Casino, the University of West Los Angeles, the Forum, and Centinela Hospital

1.3.1 CURRENT TWO (2) ALTERNATIVES THAT REMAIN UNDER CONSIDERATION

The project includes two viable alternatives:

ALTERNATIVE 1: Alternative 1 (No-Build Alternative) would result in no construction of the New South Half Interchange at Arbor Vitae Street along Interstate 405. No action would be taken to relieve current and future recurring congestion at two adjacent interchanges on I-405 at Century and Manchester Boulevards as the freeway would remain as is. Therefore, no reduction in future recurring congestion at two adjacent interchanges on Interstate 405 (Century Boulevard interchange and Manchester Boulevard interchange) as identified in the Purpose and Need of this project would occur. The No-Build Alternative would not provide direct access to Los Angeles International Airport (LAX). The accident rate would not be reduced in the segment of I-405 within the project study area without the construction of the project. The Purpose and Need of this project would remain unaddressed, its objectives unrealized, and the consequences apparent.

ALTERNATIVE 2: Caltrans proposes to construct a new south half interchange on Interstate 405 at Arbor Vitae Street, which would include a new southbound on-ramp and northbound off-ramp. The new ramps would span approximately from Arbor Vitae Street to Century Boulevard. The project also entails widening the existing Arbor Vitae Street overcrossing bridge from 78 feet to 90 feet. To provide the necessary space for the new Arbor Vitae Street northbound off-ramp, the existing Century Boulevard on-ramp crossover lane would have to be reconstructed.

For **Alternative 2**, the proposed engineering features include the following:

1. Arbor Vitae Street Overcrossing will be widened an additional 6 feet on each side to accommodate traffic due to the proposed interchange. The bridge structure will be widened from 78 feet to 90 feet.
2. A new southbound on-ramp from Arbor Vitae Street will be constructed with the connection to Arbor Vitae Street located on the east side of the freeway and connecting to the south side of Arbor Vitae Street. A portion of this ramp will be located on an overcrossing structure that spans over both directions of I-405 before connecting to southbound I-405.
3. A new northbound off-ramp to Arbor Vitae Street will be constructed with the connection to Arbor Vitae Street located on the east side of the freeway and connecting to the south side of Arbor Vitae Street. The new southbound on-ramp and northbound off-ramp connect to Arbor Vitae Street at a single intersection location.
4. A new cul-de-sac will be constructed on Ash Avenue south of Arbor Vitae Street.
5. New sound walls will be constructed along northbound and southbound I-405 at various locations.
6. Various retaining walls will be constructed to accommodate the proposed ramps.
7. The Century Boulevard collector structure (Century Collector OC) will be replaced to accommodate the proposed northbound off-ramp to Arbor Vitae Street.

Advantages/Disadvantages Summary

These are the pros of Alternative 2:

- The proposal would not impact mobility on local streets after construction

- The alternative would not encroach on Section 4(f) Parkland, wetlands, water bodies or other sensitive nature lands
- It will alleviate congestion on Century and Manchester Boulevards and the Interstate 405 interchanges to meet the Purpose and Need of this Project.

These are the cons of Alternative 2:

- Nine units of housing, a law office, and a pest control business will have to be acquired to construct the new south half interchange.
- Due to the said acquisition, some of the residents and property owners may oppose this alternative.
- Noise and traffic will increase on local streets and on the Century and Manchester Boulevard on- and off-ramps during the construction of the new south half interchange.

1.3.2 PREVIOUSLY CONSIDERED BUT REJECTED ALTERNATIVES

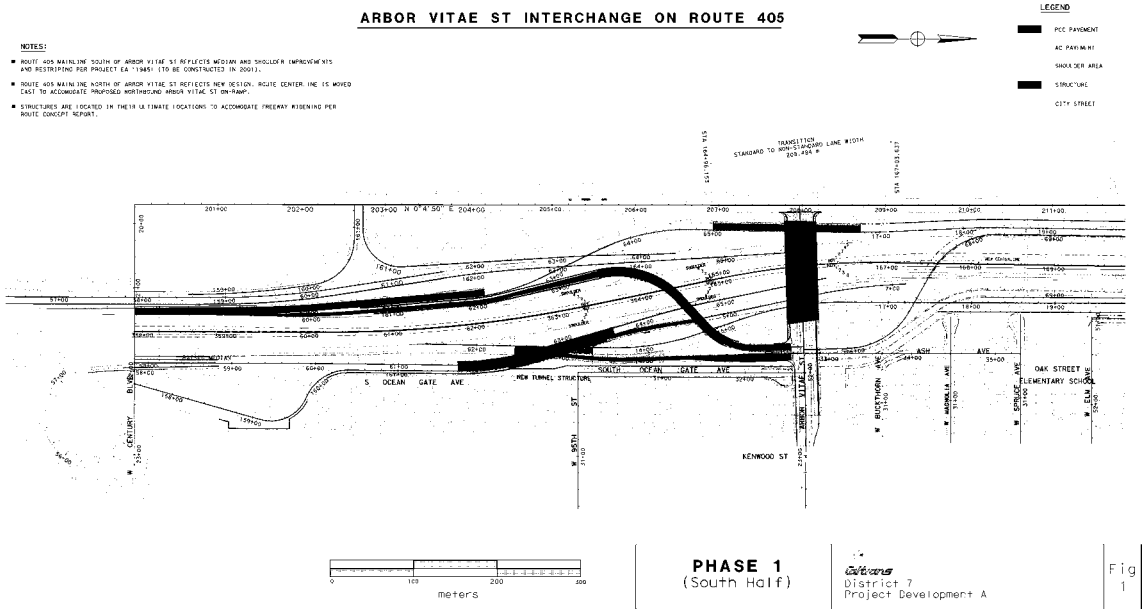
ALTERNATIVE 3 (SOUTHERN INTERCHANGE)

Similar to the Current Alternative 2, Rejected Alternative 3 would create the south half of the I-405/Arbor Vitae Street New South Half Interchange instead of a full interchange as originally proposed for this project. However, as shown in Figure 1-05 on the following page, this version of the new south half interchange design would have taken 14 full takings and 4 partial takings due to the construction of a new Arbor Vitae Street Overcrossing. This alternative would have the following design features:

- Construct a single lane off-ramp to Arbor Vitae Street from the northbound Interstate 405 off-ramp to the Manchester Boulevard collector. The ramp width will widen to two lanes at the ramp terminus to provide for mandatory left and right turn pockets plus storage space for vehicles to line up in. This would provide more direct access from northbound I-405 to Arbor Vitae Street.
- Build a two-lane on-ramp to SB I-405 from Arbor Vitae Street. The two off-ramp lanes would merge into one lane and then merge into the SB I-405 mainline. Arbor Vitae Street would be widened to the south from east of the Arbor Vitae Street overcrossing structure to Kenwood Street to accommodate a right turn pocket for eastbound Arbor Vitae Street movements to southbound I-405 and a left turn pocket for westbound Arbor Vitae Street movements to southbound I-405.
- Reconstruct the northbound Century Boulevard collector elevated overcrossing to provide a wider opening to accommodate the new northbound off-ramp to Arbor Vitae Street. This will require constructing a temporary overcrossing structure in order to continue to provide access from Century Boulevard to northbound I-405.
- The at-grade intersection between Ash Avenue and Arbor Vitae Street would be removed. Ash Avenue would end in a cul-de-sac south of Arbor Vitae Street.
- A retaining wall would be constructed west of Ash Avenue to accommodate the new northbound off-ramp to Arbor Vitae Street.
- Retaining walls would be constructed east of the southbound Interstate 405 on-ramp from La Cienega Boulevard/Olive Street intersection and along the southbound I-405 mainline to accommodate the new southbound on-ramp from Arbor Vitae Street.
- A new Arbor Vitae Street Overcrossing would be constructed.

This previously rejected alternative would have better accommodated a future full interchange at Arbor Vitae Street. Unfortunately, Alternative 3 would require the acquisition of fourteen (14) full and four (4) partial property acquisitions to build the south half of the Arbor Vitae Street Interchange. It has been redesigned into the current build alternative 2 that has only seven full property acquisitions as the Manchester Avenue Tunnel will remain as is.

Figure 1-05. Alternative 3 and South Half (Phase 1) of Alternative 4



ALTERNATIVE 4 (Full Interchange)

Rejected Alternative 4 consists of constructing a full interchange to provide direct access to and from the I-405 Freeway and relieve congestion on the two adjacent interchanges at Manchester and Century Boulevards. The full interchange would allow traffic to travel on an additional roadway from the Century (I-105) Freeway to Los Angeles World Airport and the adjacent neighborhoods and commercial and public facilities on or near Arbor Vitae Street.

This alternative, as shown in Figure 1-05 above and Figure 1-06 on the following page, will require constructing both elevated northbound and southbound off and on-ramps at Arbor Vitae Street, on the east side of freeway, at a single intersection location. This version of the full interchange design would provide direct access from westbound Interstate 105 to Arbor Vitae Street with the following design features:

1. Arbor Vitae Street Overcrossing will have to be replaced by a structure that is at least 108 feet wide to allow all of the necessary traffic movements.
2. The La Cienega Boulevard/Manchester Avenue off-ramps will have to be realigned and a retaining wall will need to be constructed at the Oak Street Elementary School.
3. Realign the Manchester Boulevard southbound on-ramp between the ramp inlet from La Cienega Boulevard and Arbor Street.
4. Construct a retaining wall between La Cienega Boulevard and the realigned Manchester Boulevard southbound on-ramp from Hillcrest Boulevard to Arbor Vitae Street.
5. Demolish the Spruce Avenue pedestrian and waterline overcrossing structure.
6. Demolish and reconstruct the Hillcrest Boulevard structure to provide utility openings for relocating the waterline and replacing the Spruce Avenue pedestrian overcrossing. Also, extend the sidewalk to Spruce Avenue on the southeast side of the structure.
7. Reconstruct the tunnel at the northbound off-ramp to Manchester Boulevard or construct a bridge by removing the tunnel (south of Arbor Vitae Street) and realign the existing on-ramp to Manchester Avenue to construct the northbound off-ramp to Arbor Vitae Street.

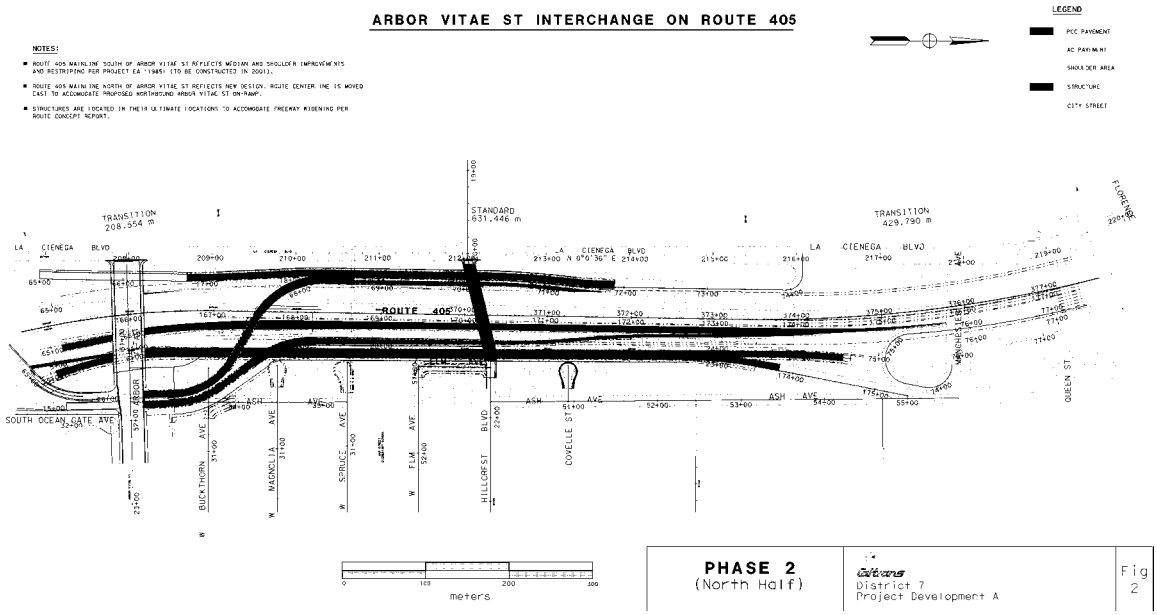
8. A total of fifty-three (53) properties would need to be acquired for the full interchange construction.

This alternative has been withdrawn from consideration due to the number of impacts associated with the northern portion of the interchange including:

1) Section 4(f) impacts to the Oak Street Elementary School.
2) High number of residential relocations due to necessary right-of-way takings

In addition, there was widespread and intense community opposition to this alternative of the project. At the time this alternative was proposed, there was a lack of available funding for a full interchange project.

Figure 1-06. North Half (Phase 2) of Alternative 4



ALTERNATIVE 5 (MODIFIED SOUTHERN INTERCHANGE)

Rejected Alternative 5 is similar to Rejected Alternative 3 as a South Half Interchange. This alternative has a viaduct along the median of Interstate 405 and a northbound loop off-ramp instead of the northbound off-ramp to Arbor Vitae Street. The loop off-ramp requires additional right of way, but relinquishes the need to modify or reconstruct the Manchester Avenue Tunnel. This rejected alternative would not sufficiently meet the project's purpose and need to reduce congestion along Century and Manchester Boulevards. This alternative requires additional right-of-way than the proposed build alternative and would not alleviate existing and projected traffic congestion along Century and Manchester Boulevards. The distance between the southbound off-ramp intersection (La Cienega Boulevard and Arbor Vitae Street) would be approximately 221 feet, which does not meet the minimum mandatory standard of 394 feet. Alternative 4 is inefficiently configured to service the projected traffic volumes along Interstate 405 and Century and Manchester Boulevards. Also, the multiple ramp access points of Alternative 4 would adversely disrupt traffic flows along Arbor Vitae Street.

ALTERNATIVE 6 (MODIFIED FULL INTERCHANGE)

Rejected Alternative 6 is similar to Rejected Alternative 4 except that the southbound off-ramp will not be constructed. Instead, the southbound Century Boulevard off-ramp will be widened and utilized for this full interchange alternative.

This alternative would not sufficiently meet the project's purpose and need to reduce congestion along Century and Manchester Boulevards. This alternative requires additional right-of-way and would not alleviate existing and projected traffic congestion on Century and Manchester Boulevards. This alternative is inefficiently configured to service the projected traffic volumes. Rejected Alternative 6's absence of a southbound off-ramp access, in addition to the other three inefficient ramp configurations, would both adversely disrupt traffic flow on Arbor Vitae Street and not provide full access to the project area.

1.4 TSM, TDM AND MASS TRANSIT

It is not anticipated that the proposed project will interfere with any transit operator planning in the area. However, Transportation System Management (TSM) and Transportation Demand Management (TDM) alternatives are usually only relevant in urban areas with population over 200,000 such as Los Angeles County. Also, in urban areas with population over 200,000 including Los Angeles County, a Mass Transportation Alternative is considered on all proposed major highway projects such as the I-405/Arbor Vitae Street New South Half Interchange.

TSM strategies consist of actions that increase the efficiency of existing facilities; they are actions that increase the number of vehicle trips a facility can carry without increasing the number of through lanes. Examples of TSM strategies include: ramp metering, auxiliary lanes, turning lanes, reversible lanes and traffic signal coordination. TSM also encourages automobile, public and private transit, ridesharing programs, and bicycle and pedestrian improvements as elements of a unified urban transportation system.

Modal alternatives integrate multiple forms of transportation modes, such as pedestrian, bicycle, automobile, rail, and transit.

TDM focuses on regional strategies for reducing the number of vehicle trips and vehicle miles traveled as well as increasing vehicle occupancy. It facilitates higher vehicle occupancy or reduces traffic congestion by expanding the traveler's transportation choice in terms of travel method, travel time, travel route, travel costs, and the quality and convenience of the travel experience. Typical activity within this component is providing contract funds to regional agencies that are actively promoting ridesharing, maintaining rideshare databases and providing limited rideshare services to employers and individuals.

For the congested Interstate 405 mainline and the Century and Manchester Boulevard interchanges, TSM, TDM, and modal alternatives (including rail and transit) may seem like reasonable and attractive strategies/alternatives. However, such strategies are outside the scope of this particular project for the following reasons:

1) Those strategies do not meet the proposed project's Purpose and Need. In particular, they would not effectively alleviate existing and future recurring congestion at two adjacent Century Boulevard and Manchester Boulevard interchanges on Interstate 405. Nor would these strategies provide direct vehicle access to the University of West Los Angeles west of Interstate 405 and to Hollywood Park Casino, the Forum and Centinela Hospital east of Interstate 405.
2) The proposed project's size (on Interstate 405 between Century Boulevard and Arbor Vitae Street) and focus is too small and narrow for any meaningful implementation and integration of TSM, TDM, and modal alternatives.

3) TSM, TDM, and modal alternatives would best serve as stand alone projects to be implemented not only within this project's study area, but along the entire Interstate 405, Century Boulevard, and Manchester Boulevard corridors.

1.5 PERMITS AND APPROVALS NEEDED

No permits and approvals would be required.

Approvals

There will be no encroachment upon any State or Federal parklands or environmentally sensitive areas (ESAs) since none exist within the I-405/Arbor Vitae Street New South Half Interchange Project Study Area. Therefore, the Army Corps of Engineers will not have to grant an easement to Caltrans before construction begins on this project to ensure that the project complies with Federal statutes and regulations governing Army Corps Civil Works projects and real estate activities.

Permitting Requirements

There are no surface waters or State or Federal listed species within the project's footprint. Therefore, the following will not be required:

- Fish and Game Code 1602 Streambed Alteration Agreement
- Clean Water Act Section 401 Water Quality Certification
- Clean Water Act Section 404 Nationwide Permit
- FESA Consultation with the U.S. Fish and Wildlife Service
- CESA Consultation with the California Department of Fish and Game

CHAPTER 2 | AFFECTED ENVIRONMENT, POTENTIAL IMPACTS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES

2.1 HUMAN ENVIRONMENT

This chapter presents potential impacts to human environments which may be caused by the Arbor Vitae New South Half Interchange Project. In this case, human environments are identified as the Inglewood, Westchester, and Lennox communities. There is no indication that these communities would be substantially impacted by the Arbor Vitae Project. The majority of the project's activities will be conducted exclusively within Inglewood city limits, and the Westchester and Lennox communities should see minimal impacts. As a result, the Inglewood community is a major focus of this human environment assessment.

Our assessment includes the following sections, which are subdivided into Regulatory Setting, Affected Environment, Potential Impacts, and Avoidance, Minimization, and/or Mitigation Measures:

1. Consistency with State, Regional, and Local Programs
2. Land-Use and Planning
3. Growth
4. Community Impacts
5. Utilities/Emergency Services
6. Traffic and Transportation/Pedestrian and Bicycle Facilities
7. Visual/Aesthetics
8. Cultural Resources

2.1.1 CONSISTENCY WITH STATE, REGIONAL, AND LOCAL PROGRAMS

Coastal Zone, Wild and Scenic Rivers, and Farmlands/Timberlands

Preliminary analysis shows that the proposed project does not fall within the State of California's Coastal Zone; there are no Wild and Scenic rivers and no Farmlands/Timberlands in the project study area. Therefore, the project will have no adverse impacts on these resources. Consequently, there is no further discussion regarding Coastal Zone, Wild and Scenic Rivers, or Farmlands/Timberlands resources in this document.

Park and Recreational Facilities

No Section 4(f) resources will be taken or used as a result of the construction of Alternative 2 (New South Half Interchange).Therefore, there will be no discussion of Parks and Recreational Facilities or other Section 4(f) Resources (open space, parks and recreation facilities, and historical/cultural resources) in this section since there are not any such facilities or activities to be affected by the Build Alternative of this project. Athletic facilities operated by the Inglewood Unified School District such as running tracks need to be reserved and paid for by non-school users according to Inglewood Unified School District's Community Relations Use of School Facilities Policies Section 1330. The proposed project does not impact any Section 4(f) Wildlife Refuge/Open Space/ Park/Recreation resources; therefore, it would not be subject to Section 4(f) federal regulations (49 U.S.C. §303, Section 4(f) of the United States Department of Transportation Act of 1966). Consequently, there is no further discussion regarding Section 4(f) in this document. Ashwood Park is a Section 4(f) Resource that is not evaluated because it is outside of the Project Study Area covered in this environmental document.

Park and Recreational Facilities/Section 4(f) Evaluation of Resources. Codified in federal law at 49 U.S.C. §303, Section 4(f) of the United States Department of Transportation Act of 1966 declares that "it is the policy of the United States government that special effort should be made

to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." Section 4(f) specifies that the Federal Highway Administration (FHWA) and other DOT agencies cannot approve the use of land from a significant publicly-owned public park, recreation area, wildlife or waterfowl refuge, or any significant historic site unless there is no feasible and prudent alternative to the use of land; and the action includes all possible planning to minimize harm to the property resulting form use. A Section 4(f) evaluation was not prepared because no Section 4(f) resources exist within the project study area, pursuant to the FHWA regulations for Section 4(f) compliance codified at 23 CFR Section 771.135. Additional guidance regarding the existence of no Section 4(f) resources in the project study area has been obtained form the FHWA Technical Advisory T 6640.8A (1987), the FHWA Section 4(f) Policy Paper (2005), and the FHWA Western Resource Center Section 4(f) Checklist (1997).

Brief Discussion of Alternatives with Potential Impacts to Park and Recreational Facilities/Section 4(f) Resources. Section 4(f) specifies that the Federal Highway Administration (FHWA) and other United States Department of Transportation (DOT) agencies cannot approve the use of land from a significant publicly-owned public park, recreation area, wildlife or waterfowl refuge, or any significant historic site unless the following conditions apply:

- There is no feasible and prudent alternative to the use of land; and
- The action includes all possible planning to minimize harm to the property resulting form use

Each project proposal with a Section 4(f) impact must include a Section 4(f) avoidance alternative. In the case of this project's No-Build Alternative and Build Alternative, no impact to Section 4(f) resources will occur because no such resources exist within the project study area. Therefore, no coordination with the State Historic Preservation Officer will be required nor will further consultation with the Department of the Interior, Department of Agriculture and the Department of Housing and Urban Development, since the project will not use Section 4(f)-protected lands.

No Section 4(f) evaluation was necessary to prepare pursuant to the FHWA regulations for Section 4(f) compliance codified at 23 CFR Section 774. Additional guidance regarding the existence of no Section 4(f) resources in the project study area has been obtained form the FHWA Technical Advisory T 6640.8A (1987), the FHWA Section 4(f) Policy Paper (2005), and the FHWA Western Resource Center Section 4(f) Checklist (1997).

2.1.2 LAND USE AND PLANNING

Existing and Future Land Use

The existing and future land use within the Arbor Vitae Corridor can be described by land use types, commuter patterns, and economic development plans. This information can be found in the following discussion.

Westchester-Playa Del Rey Community Plan/Los Angeles County General Plan

As noted in the Westchester-Playa Del Rey Community Plan, the land uses in the Arbor Vitae Street corridor can be classified as residential (single and multi-family housing), commercial (office/retail), and industrial (manufacturing and airport-related). In addition, the portions of the project which fall within Lennox and Westchester are residential (Lennox and Westchester) and public land (Westchester).

The Manchester Square Baggage Terminal Project is included in the Westchester-Playa Del Rey Community Plan and was mentioned by Councilman Bill Rosendahl's Field Representative Jim Kennedy at an Elected Officials Briefing for the I-405/Arbor Vitae New South Half Interchange

Project. At this time, there is no development timeline or funding for the Manchester Square Redevelopment Project.

City of Los Angeles General Plan/LAX Community Plan

The particular area of the community of Westchester just east of LAX, but west of Interstate 405 is generally referred to as the Airport Landside area, as designated in the City of Los Angeles General Plan and the LAX Community Plan. The Arbor Vitae New South Half Interchange Project is consistent with the LAX Community Plan's objectives regarding community cohesion, economic development and improving traffic circulation on local roads. It also addresses the problem of "pass-through" traffic on I-405 noted in the Westchester-Playa Del Rey Community Plan by reducing vehicle hours traveled on this highway. The Westchester-Playa Del Rey Community Plan includes the widening of Arbor Vitae Street from four to six lanes between Airport and Aviation Boulevards. The Arbor Vitae Street Overcrossing will be widened to accommodate the future widening of the roadway with the construction of the Arbor Vitae New South Half Interchange Project.

LAX Master Plan

The current revision of the LAX Master Plan includes several substantial improvements to roadway facilities aimed at redistributing traffic to and from LAX throughout the project study area, including improvements to Arbor Vitae Street. Century Boulevard is the principle roadway to LAX, but urgent congestion relief is needed as commuters continue to seek alternative routes, creating gridlock on the surrounding arterial system. While these improvements are not necessarily dependent on the construction of a new south half interchange on I-405 at Arbor Vitae Street, the proposed project would aid in accomplishing the future goals of LAX's parent company, Los Angeles World Airports (LAWA), in improving traffic circulation in and around airport facilities. Specifically, the proposed project aims at reducing congestion at the I-405 on-and-off-ramps at Manchester and Century Boulevards, and would provide an additional point of access to and from LAX to the I-405 mainline.

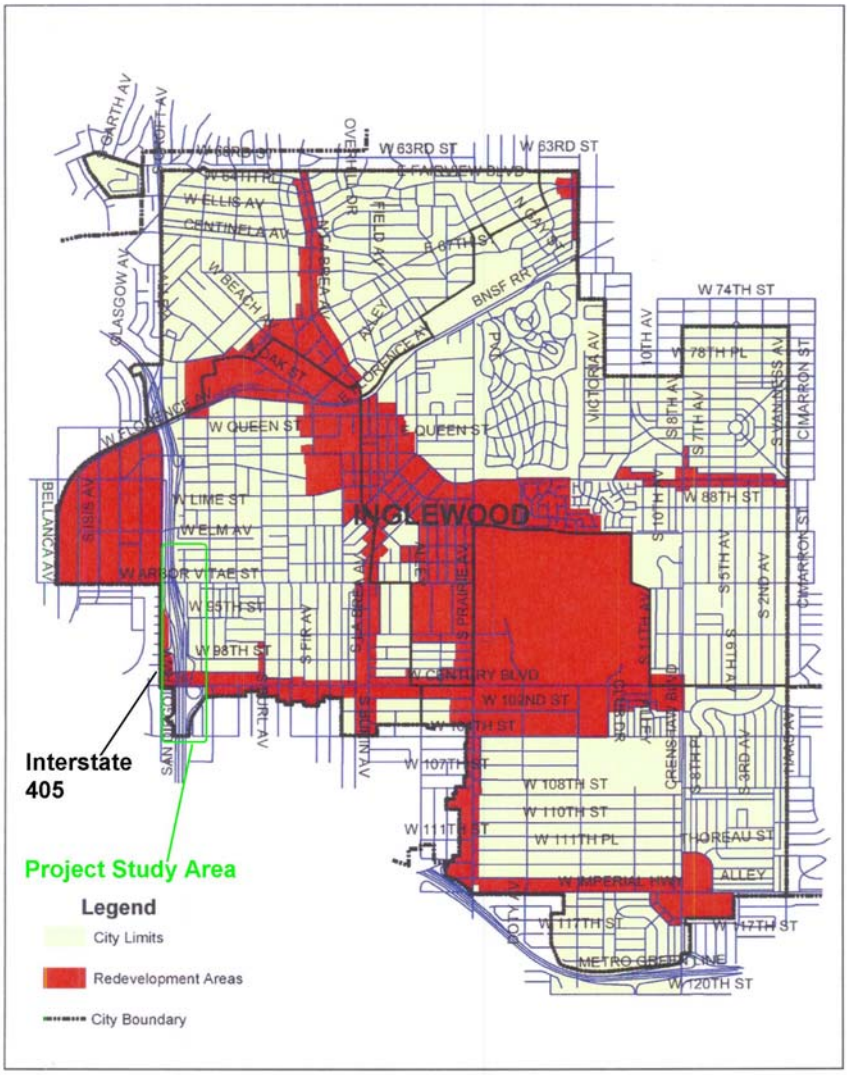
Inglewood General Plan/Inglewood Citywide Economic Development Strategic Plan

The portions of the project that fall within the City of Inglewood are primarily commercial and residential as noted in the Inglewood General Plan. Major venues at the east end of the Arbor Vitae Corridor include Centinela Hospital Medical Center at Myrtle Avenue and Hollywood Park Casino at Prairie Avenue/Avenue of the Champions. The 2005 Citywide Economic Development Strategic Plan for the City of Inglewood, details the economic needs of the city, as well as defines areas to be redeveloped. The City of Inglewood has various economic needs including workforce development, new retail businesses to generate additional sales tax revenues, and the creation of small businesses. Based on these economic needs and the Citywide Economic Development Strategic Plan, the Arbor Vitae New South Half Interchange Project should be a complimentary development project with the city's economic objectives. In fact, the Arbor Vitae New South Half Interchange Project is outlined as a portion of the city's defined redevelopment areas. See Figures 2-01 and Figure 2-02 on the following two pages that illustrate the redevelopment areas and the economic development target areas of Inglewood.

The Mixed Use Redevelopment of the Hollywood Park Casino Complex at 1050 South Prairie Avenue in Inglewood, California (Zip Code 90301) was approved on June 9, 2009 by the Inglewood City Council. Construction of the project will begin in the winter of 2009/2010 and be completed by 2014. This project helps the City of Inglewood reach its economic objectives. The Hollywood Park Redevelopment Project's cumulative impacts will be present prior to and during the construction of the I-405/Arbor Vitae New South Half Interchange.

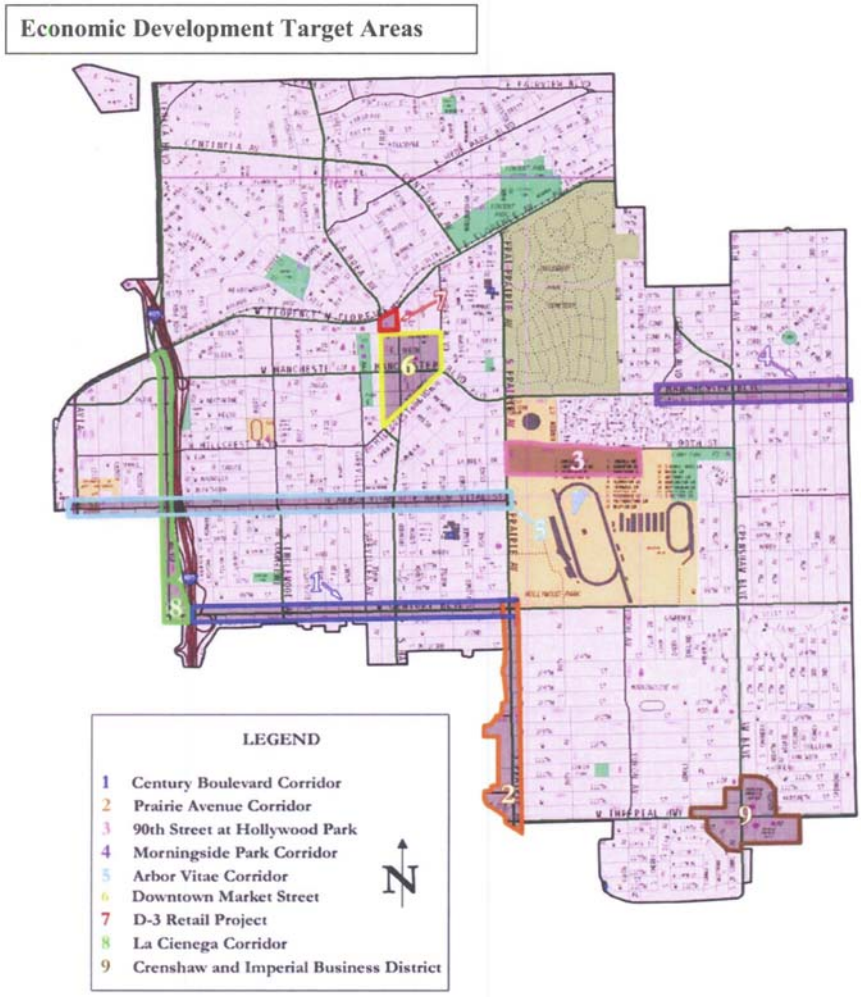
This map on the following page defines the redevelopment areas of City of Inglewood.

Figure 2-01. Redevelopment Areas of Inglewood



This map defines the City of Inglewood's economic development target areas including the Arbor Vitae Corridor.

Figure 2-02. Economic Development Target Areas



Commuter Patterns

In regards to commuter patterns, there are two primary areas of concern, capacity and congestion. In 2007, approximately 159,000 vehicles travel along I-405 in the vicinity of the Arbor Vitae Overpass per day. By 2035, this number is expected to increase to 196,000 vehicles per day. Traffic studies indicate that heavy congestion exists during weekday morning, midday, and evening peak hours as well as on weekends on the stretch of I-405 within and adjacent to the project limits. Weaving and merging of traffic on the freeway, collector-distributors, and ramps further aggravate the resulting stop-and-go traffic conditions. Motorists from I-105 traveling to the northbound I-405 are unable to use the I-405 northbound off-ramp to Century Boulevard to access LAX without having to make two difficult lane changes to the far right lane within a quarter of a mile amidst heavy congestion. This deficiency further compounds the congestion at the Manchester Boulevard interchange.

Consistency with State, Regional, and Local Plans and Programs

At this time, the project is programmed to be funded from the State Transportation Improvement Program (STIP) and the Regional Transportation Improvement Program (RTIP) for the 2008/2009 and 2009/2010 fiscal years. It is listed in both the 2008 Regional Transportation Plan (RTP) and the 2008 Regional Transportation Improvement Program (RTIP) is prepared by the Southern California Association of Governments (SCAG). Both of these documents are regional plans for future improvements for the area's transportation system.

Potential Impacts

The potential impacts to land use as a result of this project are minimal on a regional scale. Seven residential properties would be acquired by Alternative 2 consisting of a half interchange at Arbor Vitae Street along I-405. Two of these residential properties also include commercial uses that include a law office. One of the properties, consisting of three residential units and a bakery, was damaged heavily in a fire and is now unoccupied. It will provide direct access to the University of West Los Angeles west of I-405 and to Hollywood Park Casino east of I-405.

Avoidance, Minimization and Mitigation Measures

The Arbor Vitae New South Half Interchange Project was proposed as an alternative to the Arbor Vitae Street Full Interchange Project that would avoid and minimize many of the acquisitions that would result from the original project. School and parkland would no longer be impacted by the new south half interchange. The number of property acquisitions has been reduced from 53 for the original design of the full interchange project to seven (seven residential units, 1 commercial office) for the current design of the New South Half Interchange.

Caltrans will allocate project funds for relocations and mitigate all associated costs and compensation needed per the relocation costs for a residence or office of their choice. The Relocation Assistance Program (RAP) assists residents and businesses in the relocation process and the Last Resort Housing Program payments will be utilized to relocate residents being displaced by this project. All displacees, as stated in the Relocation Impact Statement, will be contacted by a Right of Way Agent who will ensure that eligible displacees receive their full relocation benefits. For this project, all relocations should take place within an estimated time frame of 18 to 24 months.

Figure 2-03. Generalized Land Use in Inglewood

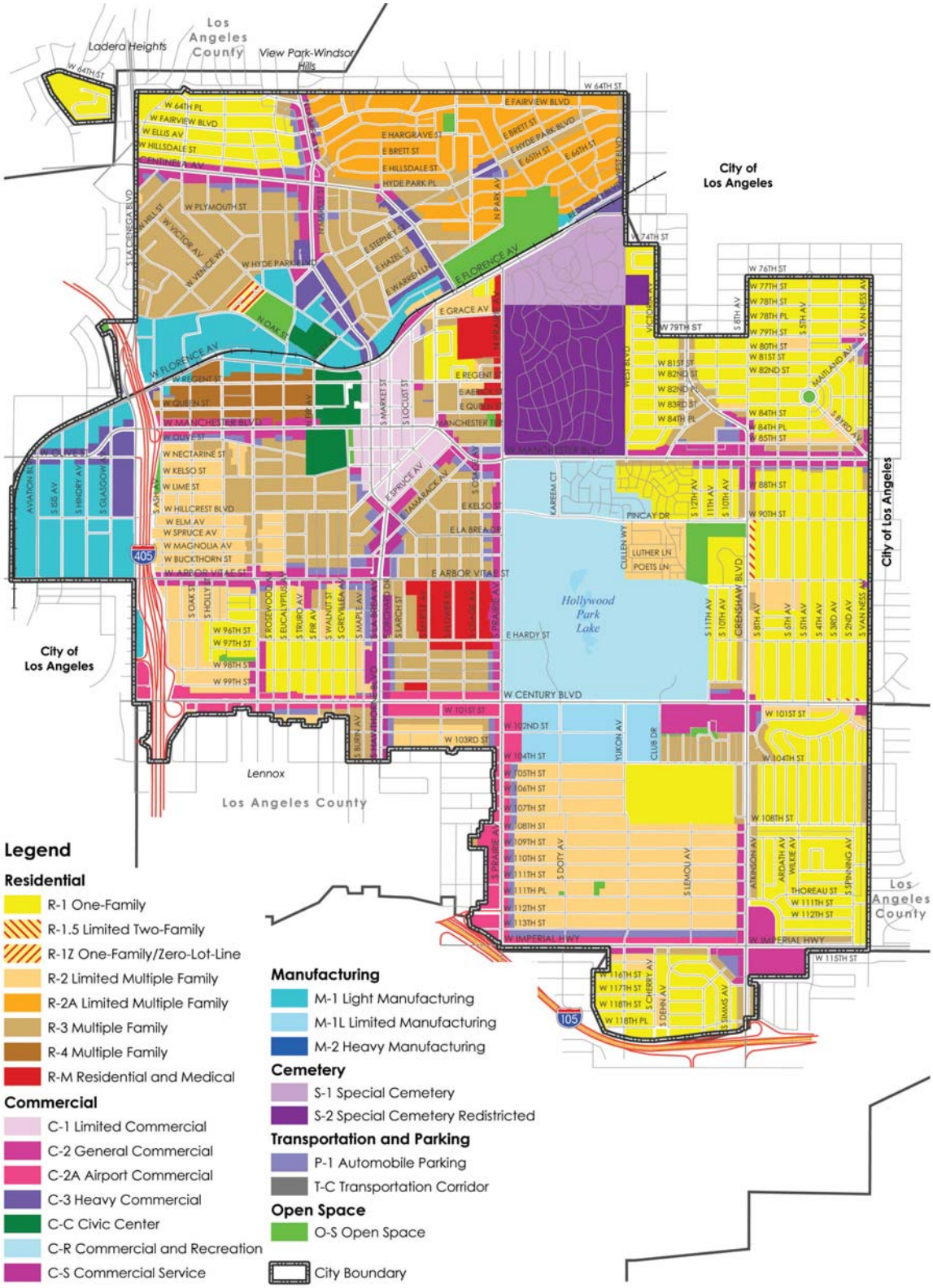
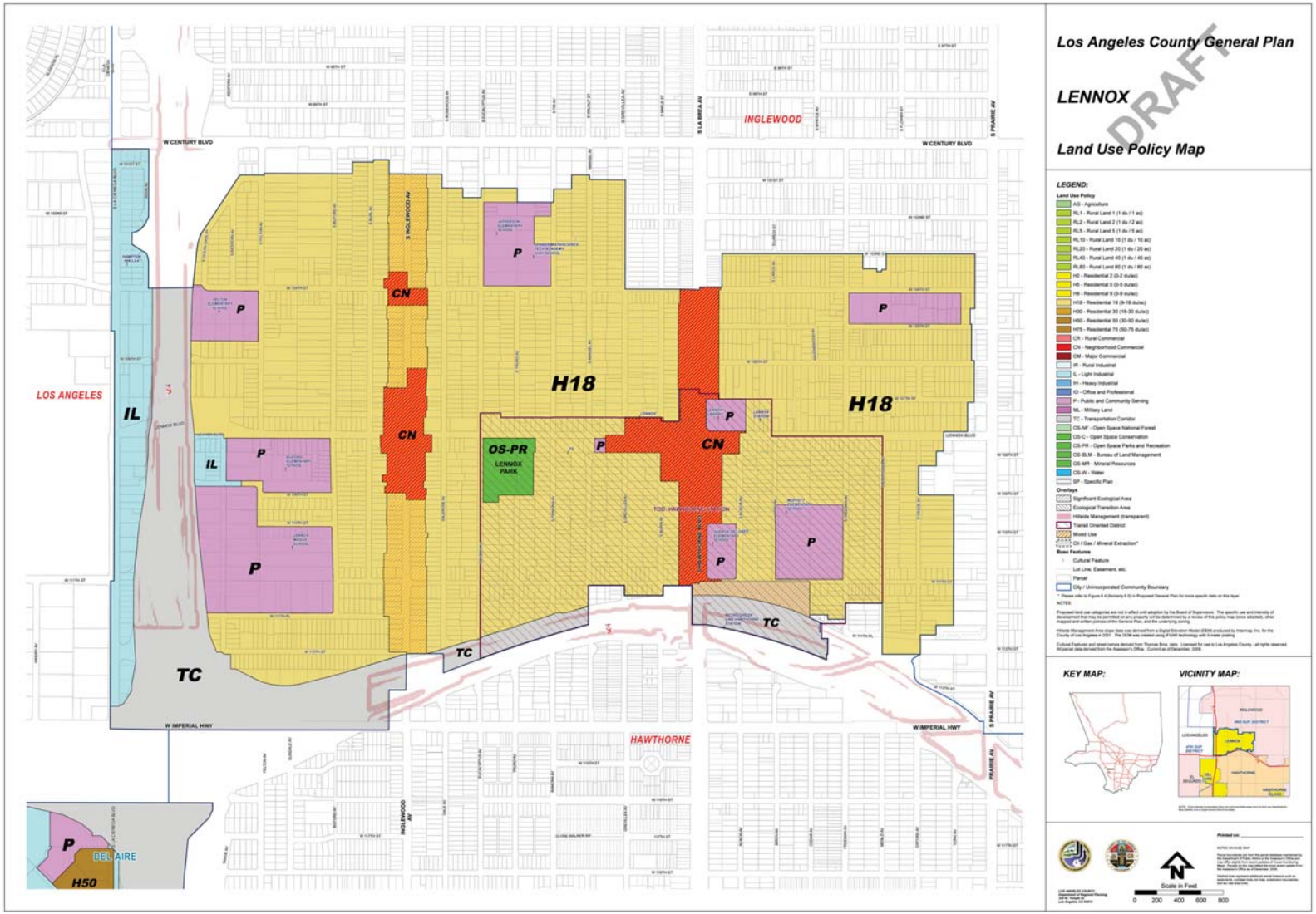


Figure 2-04. Generalized Land Use in Westchester-Playa Del Rey

Land Uses of Westchester-Playa Del Rey	
Residential	Category
	Low
	Low Medium
	Low Medium II
	Medium
	High Medium
Commercial	
	Neighborhood
	General
	Community
	Regional
	Regional Mixed Use
Industrial	
	Limited
	Light
Open Space, Public Facilities	
	Open Space
	Public/Quasi Public

Figure 2-05. Generalized Land Use in Lennox



2.1.3 GROWTH

Regulatory Setting. The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969, requires evaluation of the potential potential impacts of all proposed federal activities and programs. This provision includes a requirement to examine indirect consequences, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations, 40 CFR 1508.8, refer to these consequences as secondary impacts. Secondary impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act (CEQA) also requires the analysis of a project's potential to induce growth. CEQA guidelines, Section 15126.2(d), require that environmental documents "…discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment…"

Affected Environment

The project study area is in an urban, built out environment. The project area and the adjacent communities are dense in terms of population and commerce. As noted in the public comments received from the public circulation in 2000 of the Arbor Vitae Interchange Project Environmental Assessment/Initial Study approved in 2001, congestion from growth, particularly growth from the expansion of the Los Angeles International Airport (LAX) and its supporting businesses, is a concern to residents and workers. A number of past opponents of the project suspect that the purpose of the Arbor Vitae Interchange is to serve as an access point to Los Angeles International Airport and support its expansion. According to past and the current Environmental Assessment/Initial Studies of this interchange project, the project has not and will not include in its purpose to aid in the expansion of the airport's facilities. The LAX Community Plan and the Westchester-Playa Del Rey Community Plan note that many other projects and alternatives are in the works aimed at improving circulation in the project study area, which include the development of connections between Airport Landside facilities and the regional ground transportation network, such as improvements to public transit systems.

As part of the scoping and environmental analysis conducted for the proposed project, the following growth elements were considered:

1) **Land Use**
   In 2006, the City of Inglewood updated their General Plan (an ongoing process), which showed that single-family units contribute 45.6% of total land use, and multi-family units contribute 9.9% of the total land use in Inglewood. Comparably, the number of single family and multi family units affected by the Arbor Vitae extension should be minimal. In fact, a total of seven residences, including three multi-units and four single-family units will be affected by this project.

2) **Economic Vitality**
   According to the City of Inglewood's General Plan, Century and Manchester Boulevards are major arteries that support more than 30,000 vehicles per day. Traffic studies conducted by Caltrans in 2008 reveal that Level of Service, or "LOS" (measurements of density, delay, and travel time) at on- and off ramp segments of Manchester and Century Boulevards are expected to deteriorate even more by 2035 (See "Traffic, Transportation / Pedestrian and Bicycle Facilities" section). These major arteries currently carry consumers to Hollywood Park Casino, The Forum, Centinela Hospital, and LAX, which are key locations for economic stimulus; hence, they are important access pathways to retail locations. Adding an on-and off ramp at Arbor Vitae Street, between Century and Manchester Boulevards would reduce congestion along the two major arteries that to

these points while accommodating the existing growth that is/will be there whether the project is constructed or not, not to create more growth.

3) **Population**
In consideration of Inglewood's economic goals and overall growth, the Arbor Vitae extension has been developed to displace a minimal amount of residents. When the project is completed, a total of 21 residents will be displaced. As of 2005, the total population of Inglewood was estimated at 118,164 and was growing at an annual rate of 0.97%. We do not anticipate a substantial impact on Inglewood's current population growth.

Regional Growth Projections. The Southern California Association of Governments (SCAG) region encompasses Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. Los Angeles County consists of eight subregions; the Arroyo Verdugo Cities Subregion, Gateway Cities Council of Governments Subregion, Las Virgenes Malibu Council of Governments (LVMCOG) Subregion, City of Los Angeles Subregion, North Los Angeles County Subregion, San Gabriel Valley Council of Governments (SGVCOG) Subregion, South Bay Cities Council of Governments Subregion, and the Westside Cities Subregion. The communities surrounding the project area include Inglewood, which falls within the South Bay Cities Council of Governments Subregion, and Westchester, which falls within the City of Los Angeles Subregion, which has the largest population and most households in the region.

Based on the SCAG 2008 RTP Socioeconomic Forecast, the City of Los Angeles Subregion is expected to grow at a slower pace than other subregions in Los Angeles County, its population increasing to 4.4 million people by 2035 and adding 624,000 people to the county's total population by 2035 (pp. 26, SCAG 2007b). The same study also indicates that the number of households will increase by the Los Angeles County average (0.9 percent), with an average annual increase of 40,000 new jobs in the next 30 years (pp. 27, SCAG 2007b).

The South Bay Cities Council of Governments Subregion is expected to grow at a slower pace than other subregions in Los Angeles County, by adding people to the county, and increasing population to 1,002,927 million by 2035 (pp. 26, SCAG 2007b). The same study also indicates that the number of households will increase customary to the Los Angeles County average (0.9 percent), with an average annual increase of 40,000 new jobs in the next 30 years (pp. 27, SCAG 2007b).

Table 7 below shows growth statistics for the communities surrounding the project area:

Table 7. Community Population and Household Growth Projections for 2010

Projection	City of Los Angeles	City of Inglewood	Unincorporated South Bay Communities
Total Population	4,057,484	118,466	121,143
Growth Rate	4.4%	1.1%	6.2%
Total Households	1,366,985	37,205	56,409
Growth Rate	5.9%	1.0%	2.2%

Source: City of Los Angeles General Plan; Westchester/Playa Del Rey Community Plan

Potential Impacts

The population growth of Inglewood is projected to continue to increase below 1 percent (0.97%) from 2005 to 2035 according to the Southern California Association of Governments' (SCAG) 2008 Regional Transportation Plan Projections. This is comparable to the median growth rate for

communities in the South Bay Cites Association of Governments and throughout Los Angeles County as illustrated in SCAG population projections. The Arbor Vitae New South Half Interchange Project is not likely to have a substantial effect on growth in the project area or in nearby communities. The potential for growth inducing effects would be the highest on undeveloped and unplanned land because these areas generally have limited existing transportation infrastructure. The Arbor Vitae Project would enhance operations along I-405 that currently experiences a constrained level of freeway and local road access. Growth will emerge in some locations from land uses that change in response to market demands. However, the Arbor Vitae New South Half Interchange Project does not encourage growth on undeveloped and unplanned land, it is consistent with the Circulation Element of the General Plans of the City of Inglewood and the Transportation Element of the City of Los Angeles General Plan. The proposed transportation improvements of this project accommodate existing development. The proposed project would have no substantial potential for stimulating the location, rate, timing, or amount of growth in or adjacent to the project study area. Development and population growth is not expected to cause substantial externalities to the communities of Inglewood, Westchester, and Lennox surrounding the project area.

Avoidance, Minimization, and/or Compensation Measures

No Avoidance, Minimization, and/or Compensation Measures will be required because this project will not stimulate growth independently of other developments and road projects. The project is compatible with the City of Inglewood General Plan, the City of Los Angeles General Plan, the Playa Del Rey/Westchester Community Plan, LAX Community Plan, and the Los Angeles County General Plan.

2.1.4 COMMUNITY IMPACTS

To assess affects from the Arbor Vitae Project on surrounding communities; the following areas have been analyzed:

1. Community Character and Cohesion
2. Relocations
3. Environmental Justice

Community Characteristics and Cohesion

Regulatory Setting. The National Environmental Policy Act of 1969 as amended (NEPA), established that the federal government use all practical means to ensure all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings [42 U.S.C. 109(h)] directs that final decisions regarding projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts such as destruction or disruption of human-made resources, community cohesion and the availability of public facilities and services.

Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

Affected Environment

Community profiles and analysis was performed in the project study area as defined by census tracts within three surrounding postal zip codes, and utilizing 2000 U.S. Census data. They are represented as follows:

- 90301 (Inglewood)
- 90045 (Westchester)
- 90304 (Lennox)

Together, the population for the study area totals approximately 105,501 residents. A typical demographic study of the project study area would provide a generalized profile for the area as a whole, but because of the diverse nature of the two neighborhoods surrounding the Arbor Vitae Street Overcrossing at I-405, individual profiles are presented in the following subsections.

Zip Code 90301 – Community of Inglewood

Inglewood has a young population that is primarily African American and Latino. In comparison with Los Angeles County data, the residential population has a higher percentage of children under 5 (9.4 percent versus 7.7 percent) and a lower than average population over the age of 65 (7.0% vs. 9.7%). This area consists mostly of Hispanic and African American (57.3% Hispanic or Latino and 35% African American) residents. In total, seven African American residents will be relocated as a result of this project extension. Among these seven relocated residents, four own single-family homes which average $416,654 and are well above the City of Inglewood and Los Angeles County averages, $158,900 and $209,300, respectively.

Table 8. Racial Characteristics for Zip Code 90301 (Inglewood)

General Characteristics (90301)	Number	Percent	Los Angeles County (number)	Los Angeles County (percent)	United States (percent)
One Race	35,812	95.5	9,049,557	95.1	97.6
White	8,981	23.9	4,637,062	48.7	75.1
Black or African American	13,140	35.0	930,957	9.8	12.3
American Indian and Alaska Native	298	0.8	76,988	0.8	0.9
Asian	662	1.8	1,137,500	11.9	3.6
Native Hawaiian and Other PacificIslander	77	0.2	27,053	0.3	0.1
Some Other Race	12,654	33.7	2,239,997	23.5	5.5
Two or more races	1,695	4.5	469,781	4.9	2.4
Hispanic or Latino (of any race)	21,474	57.3	4,242,213	44.6	12.5

Source: U.S. Census 2000

Educational attainment in this community is below the Los Angeles County averages, according to Census Data. 56.6 percent of the community's population are high school graduates (in comparison with 69.9 percent in Los Angeles County), and 9.6 percent of the population hold a bachelor's degree or higher (in comparison with 24.9 percent in the county). The educational attainment in the zip code may explain the median household income of $31,306 and per capita income of $13,390, which are substantially lower than the county averages ($42,189 and $20,683, respectively). The percentage of families below poverty level, 19.7%, is higher than the community of Westchester and the county as a whole (6.9% and 14.4%, respectively).

In general, community characteristics in 90301 indicate a strong transitional nature. The amount of time an Inglewood household is likely to live at one location (housing tenure) is lower than the Westchester zip code 90045. Owner-occupied housing is well below the countywide average (26.6% vs. 47.9%), and approximately 73.4% residents are renters. Chapter 2 of the Inglewood General Plan from 2006 noted that single-family homes throughout the entire city are being torn down or converted into apartment or condominium multifamily housing. In 2000, 64% of residents throughout the city were renters. As a result, the percentage of owner-occupied homes in Inglewood is lower than the Los Angeles County percentage of owner-occupied homes (36.0% vs. 47.9%).

The definition of "poverty" or "low income" populations in the project study area is based on the Department of Health and Human Services poverty guidelines. For 2009, the guideline was

$22,050 for a family of four as shown in Table 9 U.S. Department of Health and Human Services Poverty Guidelines below.

Table 9. U.S. Department of Health and Human Services Poverty Guidelines

Size of Family Unit	2000	2009
1	$8,350	$10,830
2	$11,250	$14,570
3	$14,150	$18,310
4	$17,050	$22,050
5	$19,950	$25,790
6	$22,850	$29,530
7	$25,750	$33,270
8	$28,650	$37,010
For each additional person, add	$2,900	$3,740

Zip Code 90045 – Community of Westchester

Westchester zip code area 90045 is represented by a high level of cultural diversity, educational attainment, and income earned among residents. Racial make-up is predominately White (61.3%) and African American (16.7%), both are higher than Los Angeles County averages for Whites and African Americans 48.7% and 9.8%, respectively. This area also has a lower than average percentage of Hispanics or Latino (23.9%) and Asians (1.8%). The average populations for Hispanics and Asians in Los Angeles County are 48.7% and 11.9%, respectively.

Table 10. Racial Characteristics for Zip Code 90301 (Westchester)

General Characteristics (90045)	Number	Percent	Los Angeles County (number)	Los Angeles County (percent)	United States (percent)
One race	37,290	94.8	9,049,557	95.1	97.6%
White	24,118	61.3	4,637,062	48.7	75.1%
Black or African American	6,580	16.7	930,957	9.8	12.3%
American Indian and Alaska Native	156	0.4	76,988	0.8	0.9%
Asian	3,687	9.4	1,137,500	11.9	3.6%
Native Hawaiian and Other Pacific Islander	171	0.4	27,053	0.3	0.1%
Some other race	2,578	6.6	2,239,997	23.5	5.5%
Two or more races	2,025	5.2	469,781	4.9	2.4%
Hispanic or Latino (of any race)	6,877	17.5	4,242,213	44.6	12.5%

Source: U.S. Census 2000

Educational attainment is above the Los Angeles County averages. According to Census Data, 90.7 percent of the community's population are high school graduates (in comparison with 69.9 percent in Los Angeles County), and 41.3 percent of the population hold a bachelor's degree or higher (in comparison with 24.9 percent in the county). Median income ($56,566) and per capita income ($28,635) are the highest within the project study area and above the county averages. There are fewer families living below poverty level (6.9 %) compared to Inglewood (zip code 90301), Lennox (zip code 90304), and Los Angeles County (14.4 percent).

There are a number of characteristics that exemplify a strong sense of belonging or community cohesion. In Westchester, the residents over 65 and the number of home owners are the strongest examples of cohesion. Approximately 11.7% of the population, (39,315: 2000 U.S. Census) is over 65 years old. This is much higher than the Los Angeles county average of senior citizens, which is 9.7%. This is critical to community cohesion considering that senior citizens have been known to be more likely to attending community meetings, get involved in civic and religious activities, etc. In addition to senior citizen, homeownership is also an indicator that

residents feel a strong sense of belonging to their community. In fact, 52.2% of residents in Westchester are homeowners, which is above the Los Angeles County average of 47.9%.

Zip Code 90304 – Community of Lennox

The community of Lennox exists southeast of the project study area. The population has a substantially higher percentage of children under 5 in comparison with Los Angeles County data (10.4 percent versus 7.7 percent) than the Los Angeles County average and a much lower than average of the population over the age of 65 (3.9% vs. 9.7%). The smaller than average senior citizen population is likely to correlate to a lower level of community cohesion. The percentage of individuals classifying themselves as "Hispanic or Latino of any race" (87.1% vs. 44.6%) or "Some Other Race" (54.8% vs. 23.5%) is well above the Los Angeles County average while African American, Asian, and White population percentages are well below the countywide averages.

Table 11. Racial Characteristics for Zip Code 90304 (Lennox)

General Characteristics (90301)	Number	Percent	Los Angeles County (number)	Los Angeles County (percent)	United States (percent)
One race	27,301	95.2	9,049,557	95.1	97.6%
White	9,193	32.1	4,637,062	48.7	75.1%
Black or African American	1,411	4.9	930,957	9.8	12.3%
American Indian and Alaska Native	300	1	76,988	0.8	0.9%
Asian	321	1.1	1,137,500	11.9	3.6%
Native Hawaiian and Other Pacific Islander	368	1.3	27,053	0.3	0.1%
Some other race	15,708	54.8	2,239,997	23.5	5.5%
Two or more races	1,378	4.8	469,781	4.9	2.4%
Hispanic or Latino (of any race)	24,968	87.1	4,242,213	44.6	12.5%

Source: U.S. Census 2000

The community of Lennox has the highest percentage (29.5%) of families living in poverty in the project study area. Educational attainment in this community is well below the Los Angeles County averages, according to 2000 Census Data. 56.6 percent of the community's population are high school graduates (in comparison with 69.9 percent in Los Angeles County), and 9.6 percent of the population hold a bachelor's degree or higher (in comparison with 24.9 percent in the county). The educational attainment in the zip code may explain the median household income of $29,036 and per capita income of $8,950, which is substantially lower than the county averages. 11.6% of the population in the area utilizes public transportation as a means to commute to work, well above the county average of 6.6%. Higher public transportation ridership may be attributed to the relatively high percentage of families living below the poverty threshold as noted above.

Owner-occupied housing is well below the countywide average (31.9% vs. 47.9%) in this urban neighborhood. Renters occupy a large majority (68.1%) of the housing supply and the community's low number of residents above the age of 65 combine to support the notion that residential sentiment in this area is transitional. The median value of single-family, occupied homes in the area are substantially lower than the countywide average ($158,900 vs. $209,300) and the same as zip code 91301 included in the project study area. Community cohesion in this particular area is considered to be low-to-moderate in light of the high percentage of renters over homeowners and the lack of residents over the age of 65.

Potential Impacts

Potential Project-Related Traffic Impacts. No existing freeway mainline, on- or off-ramp facilities would be permanently impacted by the construction of the new south half interchange. With a few exceptions, the construction of the new ramps for the proposed half-interchange would take place adjacent to the freeway traffic lanes and can generally be constructed while maintaining traffic conditions on the existing roadway. Existing freeway lanes, collector/distributor

lanes, and ramps would likely require only restriping work, as needed. It is anticipated that detoured traffic on local streets would be minimal.

The proposed project would not require lengthy closures of freeway facilities in the project area. Intermittent closures of short duration are expected for the southbound I-405 on-ramp from Olive/Manchester, as well as the northbound collector road on-ramp. Some circulation interference is also expected along Arbor Vitae Street where the overcrossing would be widened. Temporary construction-related traffic delays would be addressed in the TMP.

Potential Right-Of-Way/Private Property Impacts. To construct the new south half interchange, Alternative 2 would require the full acquisition of 9 housing units (three single-family residences and six multi-family residential units). A law office and a pest control business on the northeast side of the project study area would also be acquired. Alternative 1, the No-Build Alternative, would have no right-of-way/private property impacts.

Potential Impacts to Property Values or Local Tax Base. Property values and the local tax base can be affected by multiple external variables not necessarily attributed to the proposed project. These external variables could include, but are not limited to: location, the constantly changing local, regional, and national economic status, public policies, fuel and energy costs, community image and aesthetics, and land and housing availability. Also, the type and number of surrounding businesses, city services, city planning and the fluctuating real estate market also have an effect on property values and the local tax base. Proposed Alternative 2 would have some potential to impact general property values and the local tax base. Several foreclosures have occurred in other projects near the vicinity of this project; therefore, foreclosures may be an issue. On a larger regional scale, the impacts of the property acquisitions would be minimal in terms of effects on general property values and the local tax base.

Potential Regional Economic Impacts. The I-405 freeway is the only north-south freeway west of downtown Los Angeles. I-405 connects the South Bay Region, the San Fernando Valley, and the Westside of Los Angeles. The mobility of these portions of Los Angeles County depend upon the I-405. The adjacent interchanges at Manchester and Century Boulevards are now heavily congested due to local and Los Angeles International Airport (LAX) related traffic. The construction of the new south half interchange would alleviate current and future congestion at the adjacent Manchester and Century Boulevard Interchanges. From an economic standpoint, the extreme traffic congestion and circulation issues along I-405 within and surrounding the project study area creates regional impacts in terms of increasing the cost of moving goods and loss of productivity. Productivity is typically a system efficiency measure that reflects the degree to which the transportation system performs during peak demand conditions. The efficiency of any transportation system is directly related to the cost of the movement of people and goods. During construction, some businesses may experience minor economic effects that are a result of temporary circulation and/or access issues related to traffic redistribution. However, the economic benefit of the Arbor Vitae Street New South Half Interchange Project would improve the overall transportation network. Current conditions already make it difficult for citizens in the surrounding communities to access neighborhood amenities and services, so any improvement to circulation or access along or to or from I-405, Arbor Vitae Street, Century Boulevard, or Manchester Boulevard would create positive regional economic impacts. The project would improve economic vitality to the surrounding communities by providing direct vehicle access to the University of West Los Angeles west of I-405 and to Hollywood Park Casino east of I-405. Vehicle congestion would be reduced along Century and Manchester Boulevards and along their on-ramps and off-ramps as drivers utilize the Arbor Vitae New South Half Interchange's southbound off-ramp and northbound on-ramp.

Potential Impacts to Local Businesses. Proposed Alternative 2 would require the acquisition of the Law Office of Hugo Rojas according to a Caltrans-prepared Relocation Impact Report (Caltrans 2008). Hugo Rojas' Law Office and adjacent multi-family residential 3-unit complex are minority-owned commercial and residential properties. The building owned by the Trust of Gene

Smith has a pest control business. Also, as discussed in the previous section regarding traffic impacts, local businesses surrounding the project area may experience minor effects that are a result of temporary circulation and/or access issues related to traffic redistribution. No government facilities, businesses or non-businesses such as parks and recreation areas, will be impacted by this project's build alternative.

Table 12. Estimated Nonresidential Displacement Units by Alternative

NONRESIDENTIAL	Alternative 1	Alternative 2
Commercial Business	0	2
Industrial/Manufacturing Businesses	0	0
Nonprofit Organizations	0	0
Agricultural/Farms	0	0
TOTAL NONRESIDENTIAL UNITS	0	2
TOTAL UNITS	0	7

Source: State of California Department of Transportation, Relocation Impact Statement, 8/28/2008

Potential Impacts on Economic Vitality, Established Business Districts, and Employment. Established business districts immediate to the Arbor Vitae Street New South Half Interchange construction and along South Ash Avenue in Inglewood and La Cienega Boulevard in Westchester, could experience minimal economic effects that are a result of temporary circulation and/or access issues related to traffic redistribution. However, the overall economic benefit of the improved vehicular traffic conditions post-construction will be substantial.

Improvements to traffic, flow and capacity on local streets due to the completion of the new south half interchange will also lead to less congestion and better vehicle flow and capacity on the I-405 mainline and signalized intersections throughout communities within and surrounding the project area. Serious traffic and circulation issues adversely affect both the Century and Manchester Boulevard Interchanges and the intersections and streets that surround them, including La Cienega Boulevard. This is because development and growth of the surrounding communities and commuters and visitors driving into and out of the project study area have led to vehicular traffic that exceeds the capacity of the existing transportation infrastructure, including the Century and Manchester Boulevards on- and off-ramps. Any improvement in traffic flow and circulation on local streets resulting from the addition of the Arbor Vitae Street New South Half Interchange Project will aid in the revitalization of the City of Inglewood and the unincorporated community of Lennox and Westchester within the City of Los Angeles. The project is not anticipated to adversely affect employment in these areas other than the Law Office of Hugo Rojas which will be acquired.

Avoidance, Minimization, and/or Compensation Measures

Measures to Minimize for Potential Project-Related Traffic Impacts. An analysis of the local highway and arterial system in and around the project study area was performed to assess and analyze current traffic operations and circulation conditions and to provide modeling for conditions post-construction for the Build Alternative 2 and the No-Build Alternative 1. It also presents proposals to minimize any project-related traffic to signalized intersections within communities and on the freeway mainlines and on- and off-ramps included in and adjacent to the project study area. A more detailed discussion and analysis of traffic is presented in Section 2.1.5 of this document titled "Traffic and Transportation/Pedestrian and Bicycle Facilities." Also, a traffic Management Plan (TMP) would be prepared to minimize traffic impacts in the project area.

Relocations

Regulatory Setting. Caltrans' Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 U.S.C. 2000d, et seq.). For more information regarding Caltrans' relocation program, please reference Appendix D of this document titled "Summary of Relocation Benefits.

Affected Environment

The project study area is in an urban, built out environment. According to the project's Relocation Impact Statement, the project study area includes and is adjacent to about 176 potential replacement residential units and 57 commercial properties that can be rented or purchased for the displaced households and the law office.

Preliminary studies in the project study area indicated that the availability of safe and sanitary replacement housing in the area was more than sufficient and comparable in terms of amenities, public utilities and accessibility to public services, transportation, and shopping. Market availability is expected to remain adequate and there are no other pending Caltrans or public projects in the area that would affect or compete with available housing.

Potential Impacts

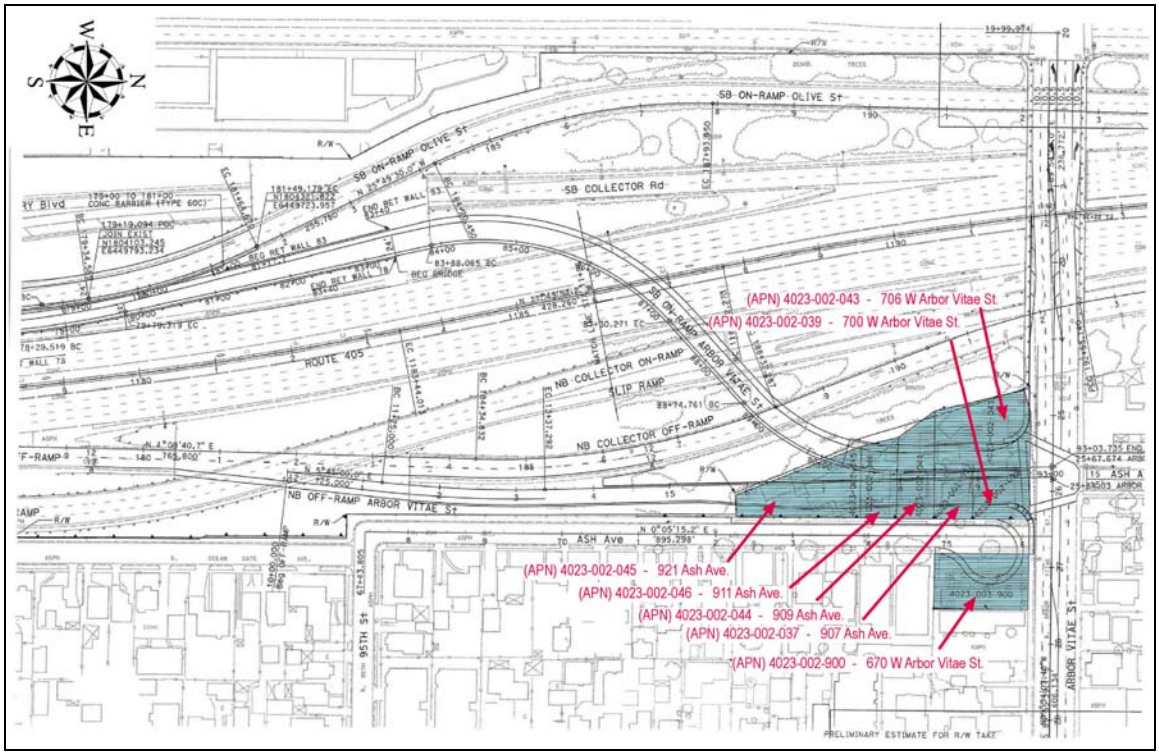
Build Alternative 2 proposes the construction of a new south half interchange from roughly Arbor Vitae Street to Century Boulevard, with the Arbor Vitae Bridge widened from 78 to 90 feet. Relocations would be necessary if this alternative is selected, with the acquisition of 9 housing units (3 single family residences and 6 multi-family residential units), a pest control business, and a law office that are on the northeast side of the project study as illustrated in Table 13 below and Figure 2-06 on the following page (shown in shaded gray areas of layout. There would be no partial takes as part of the build alternative.

Table 13. Estimated Full Residential Displacement Units by Alternative

RESIDENTIAL	Alternative 1	Alternative 2
Owner Occupants of Single Family Residences	0	3
Tenant Occupants of Single Family Residences	0	1
Owner Occupants of Multiple Family Residences	0	1
Tenant Occupants of Multiple Family Residences	0	0
Owner Occupants of Mobile Homes	0	0
Tenant Occupants of Mobile Homes	0	0
TOTAL RESIDENTIAL UNITS	0	5
TOTAL UNITS	0	7

Source: State of California Department of Transportation, Relocation Impact Statement, 8/28/2008

Figure 2-06. Potential Right-of-Way Takings of Build Alternative



Avoidance, Minimization, and Mitigation Measures

Relocations are to be expected with the implementation of Build Alternative 2 according to the project's Relocation Impact Statement. It is Caltrans' policy to earmark project funds for relocations and to adequately budget to cover all associated costs and compensation. The Acquisitions Branch purchases the properties and the Relocation Assistance Program (RAP) assists residents and businesses in the relocation process. For this project, five to six agents are expected to handle all relocations within an estimated time frame of 18 to 24 months. All displacees, as stated in the Relocation Impact Statement, will be contacted by a Right of Way Agent who will ensure that eligible displacees receive their full relocation benefits, including advisory assistance, and that all activities will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as it has been amended.

Environmental Justice

Regulatory Setting. All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President Clinton on February 11, 1994. This Executive Order directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2009, it is $22,050 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project. Caltrans' commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement signed by the agency's director and included in Appendix B of this document.

Affected Environment

The project study area is built out and includes residential, commercial, and industrial land uses. The residences and law office affected by Alternative 2 are located on the eastern end of the Project Study Area. The landlords and tenants of the affected properties are predominantly Latino and African American as are the overall residents of City of Inglewood. The City of Inglewood and vicinity east of I-405 are similar in demographic and socioeconomic characteristics. Most households are moderate income to low-income households (see the fourth paragraph under the Zip Code 90301 – Community of Inglewood section). These populations are protected by Executive Order 12898 and Title VI of the Civil Rights Act of 1964.

Potential Impacts

In the United States, the Latino and African American ethnic groups represent two minority groups. However, the proposed project is not expected to result in disproportionate impacts to these two or other minority or low-income communities. As shown in Table 8 and Table 11, adjacent communities to the project study area reflect similar racial and socioeconomic backgrounds. The section labeled Zip Code 90045 – Community of Westchester and Table 10 illustrate that Westchester, located west of I-405, has a population that has a higher percentage of Asian and Caucasian residents, a higher household and per capita income, and less low-income households than in Inglewood and Lennox. However, the Arbor Vitae New South Half Interchange Project can not avoid impacts to Inglewood unless the alignment of I-405 is moved west and thus require many more takings of property on the west side of I-405 as compared to the seven property acquisitions required by Alternative 2. The proposed improvement is anticipated to have a beneficial impact on all project study area residents, including minority and low-income populations, by providing traffic improvements that increase the operational efficiency of existing transit services and provide additional transit services throughout the affected communities. See Table 8, Table 10, and Table 11 to compare the differences in populations between the national majority of White populations, African American populations, and Latino Populations.

The Build Alternative proposes construction of the Arbor Vitae New South Half Interchange Project along the I-405 mainline in order to meet the project's purpose and need. The community (Inglewood) that would be affected by the construction of the Arbor Vitae New South Half Interchange Project is unavoidable due to its location adjacent to the freeway facility. Noise, air quality, traffic, and visual impacts would be increased while the Arbor Vitae Street New South Half Interchange would be constructed. However, these impacts would be mitigated to minimal effects once construction is completed.

Determination of Disproportionate Effects to Minority and Low-Income Populations

There is a potential to impact minority and low-income populations in zip code 90301 in Inglewood. Therefore, environmental justice could be an issue with Alternative 2. If selected through the Project Approval Environmental Document Process, it will include the full acquisition of residential and commercial property and require 9 residential unit relocations and the relocation of a law office and pest control business in a community with a predominantly Latino and African American population. See Table 14 on the following page for data about the individual properties. None of the impacts resulting from this project are neither high and adverse and/or disproportionate to minority and low-income populations within the project study area.

Based on the above discussion and analysis, Build Alternative 2 will not cause disproportionately high and adverse effects on any minority or low-income populations as per E.O. 12898 regarding environmental justice.

Table 14. Minority Status of Affected Property Owners and Tenants

Assessor's Parcel Number (APN)	Address of Property:	Property Owner: Minority or Nonminority	Property: Residents or Tenant(s)	Tenant(s) Minority or Nonminority
4023-002-037	907 Ash Avenue	Minority	Residents	Minority
4023-002-039	700 W Arbor Vitae Street	Nonminority	Tenant (Pest Control)	Business
4023-002-043	706 W Arbor Vitae Street	Minority	Tenants (Residential/Law Office)	Minority
4023-002-044	909 Ash Avenue	Minority	Residents	Minority
4023-002-045	921 Ash Avenue	Minority	Residents	Minority
4023-002-046	911 Ash Avenue	Minority	Residents	Minority
4023-003-900	670 W Arbor Vitae Street	Demolished Property	Demolished	None

Avoidance, Minimization, and Mitigation Measures

Build Alternative 2 was designed to minimize the impacts to the communities affected by the Interstate 405 New South Half Interchange. It reduced the number of right of way takings from 14 full takings and 4 partial takings in the previously considered but rejected Alternative 3 (Southern Interchange with Direct Access to Interstate 405) to seven full takings.

As discussed in the relocations section, relocations are to be expected with the implementation of Build Alternative 2 according to the project's Relocation Impact Statement. To mitigate the impacts of the relocation process to the minority households and business covered by federal Executive Order 12898 Title VI Environmental Justice laws, it is Caltrans' policy to earmark project funds for relocations and to adequately budget to cover all associated costs and compensation for a residence or office of their choice. All displacees, as stated in the Relocation Impact Statement, will be contacted by a Right of Way Agent who will ensure that eligible displacees receive their full relocation benefits.

2.1.5 UTILITIES, COMMUNITY FACILITIES AND EMERGENCY SERVICES

Utilities

Build Alternative 2 is expected to impact existing utilities and right-of-way associated with them, requiring easements and special agreements from managing agencies. The following details were obtained from the Caltrans Division of Project Development, and all costs and specifications are subject to change. More information will be available during the Project, Specifications, and Estimates phase. The estimated utilities relocation costs for Build Alternative 2 are $7,977,963, with the possibility of escalation to $10,810,751. These costs include the drilling of 30 potholes to determine the possible relocation of a Southern California Edison natural gas line to run under the I-405 mainline, 700 feet of 8-inch VCP sewer line in the City of Inglewood, 3 sewer holes, and the relocation of 1 overhead electrical pole and 1 high-voltage overhead power tower line to cross over the I-405 mainline.

No utilities relocation costs exist for No-Build Alternative 1.

Community Facilities and Emergency Facilities

Community facilities and services include the schools, police stations, fire stations, and parks and recreational facilities in the area. There will be no discussion of Section 4(f) Resources (open space, parks and recreation facilities, and historical/cultural resources) in this section since there are not any such facilities or activities to be affected by the Build Alternative of this project. The Inglewood Unified School District (IUSD) in Inglewood, the Lennox School District in Lennox and the Los Angeles Unified School District (LAUSD) in the Westchester community provide primary and secondary public education services. Private institutions within Inglewood, Westchester, and neighboring communities also provide primary and secondary public education services at various costs and locations. Protection and law enforcement is provided by the Inglewood Police Department through its central station and substation serving the Inglewood portion of the project

study area, the Lennox Sheriff Station serving the Lennox community within the project study area and the Los Angeles Police Department through the Pacific Community Station serving the Westchester section of the project study area. Further protection is provided by 2 Los Angeles County Fire Department (LACOFD) neighborhood stations (I in Inglewood and 1in Lennox) and 1 Los Angeles (City) Fire Department (LAFD) neighborhood station in Westchester. These stations provide fire protection and firefighting, emergency care, hazardous materials and disaster response, and community service. Parks and recreation facilities are planned, developed, and managed by the City of Inglewood Department of Parks, Recreation, and Community Services and the City of Los Angeles Department of Recreation and Parks.

Schools. The proposed Build Alternative 2 would not pose any relocation or adverse impacts to any schools in the project area, but schools adjacent to the project area may experience temporary effects during construction in terms of associated accessibility and/or noise issues. During the construction phases of the project, noise from construction activities will temporarily and intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans Specifications, Section 7-1.011, “Sound Control Requirements.” These requirements state that noise levels generated during construction shall comply with applicable local, state, and federal regulations that all equipment shall be fitted with adequate mufflers according to the manufacturers’ specifications. A list of schools within 4 miles of the project area is provided on the next page, complete with their approximate distance from the project area (as determined by distance from the intersection of I-405 and the Arbor Vitae Street Overcrossing).

Table 15. Community Schools Within Four Miles of Project Area

Name	Address	Community	Zip Code	Miles from Project Area
PRE-K/KINDERGARTEN SCHOOLS				
Buford Pre-School	10915 South Felton Avenue	Inglewood	90304	1.5
Century Park Elementary (Pre-Kindergarten through 5th Grade)	10935 South Spinning Avenue	Inglewood	90303	4.1
Head Start and Child Development Program	10409 South Tenth Avenue	Inglewood	90303	3.2
Head Start	4949 West 104th Street	Inglewood	90304	1.4
Higher Learning Academy	534 West Arbor Vitae Street	Inglewood	90301	0.3
Inglewood Christian School	215 East Hillcrest Boulevard	Inglewood	90301	0.3
University of Children Montessori School	1518 Centinela Avenue	Inglewood	90302	2.0
Westchester Lutheran School (Kindergarten)	7831 South Sepulveda Boulevard	Westchester	90045	3.7
Wilder's Preparatory Academy (Kindergarten)	830 North La Brea Avenue	Inglewood	90302	2.4
Wiz Child Development Center	121 West Arbor Vitae Street	Inglewood	90301	0.8
ELEMENTARY/MIDDLE SCHOOLS				
Albert Monroe Middle School	434 South Grevillea Avenue	Inglewood	90301	1.2
Beulah Payne Elementary	215 West 94th Street	Inglewood	90301	0.7
Bennett-Kew Elementary	11710 South Cherry Avenue	Inglewood	90303	1.4
Buford Elementary	4919 West 109th Street	Lennox	90304	1.6
Calvary Christian School	2400 West 85th Street	Inglewood	90305	1.4
Centinela Elementary	1123 Marlborough Avenue	Inglewood	90302	3.3
Century Academy for Excellence	2400 West 85th Street	Inglewood	90305	1.4
Century Community Charter School	901 South Maple Street	Inglewood	90301	1.1
Clyde Woodworth Elementary	3200 West 104th Street	Inglewood	90303	3.1
Crozier Middle	120 West Regent Street	Inglewood	90301	1.5
Culture and Language Academy of Success	2930 West Imperial Highway	Inglewood	90303	3.9
Daniel Freeman Elementary	2602 West 79th Street	Inglewood	90305	3.7
Delores Huerta Elementary	11036 Hawthorne Boulevard	Inglewood	90304	2.2
Delores Huerta Elementary	4125 West 105th Street	Lennox	90304	2.0
Felton Elementary	10417 Felton Avenue	Lennox	90304	1.1
Frank D. Parent Elementary	5354 West 64th Street	Inglewood	90302	2.6
Highland Elementary	430 Venice Way	Inglewood	90302	1.9
Hudnall Elementary	331 West Olive Street	Inglewood	90305	1.1
Jefferson Elementary	10322 Condon Avenue	Lennox	90304	1.3
K Anthony Elementary	8420 Crenshaw Boulevard	Inglewood	90305	3.2
K Anthony's School	1003 South Prairie Avenue	Inglewood	90301	1.5
Kelso Elementary	809 East Kelso Street	Inglewood	90301	1.6
Kenneth L. Moffett Elementary	11050 Larch Avenue	Lennox	90304	2.2
La Tijera Elementary	1415 North La Tijera Boulevard	Inglewood	90302	2.0
Lennox Middle	11033 Buford Avenue	Lennox	90304	1.6
Monroe Middle	10711 South 10th Avenue	Inglewood	90303	3.5
Oak Street Elementary	633 South Oak Street	Inglewood	90301	0.4
Saint John Chrysostom Elementary	530 East Florence Avenue	Inglewood	90301	2.3
San Pedro Academy	1145 West Manchester Avenue	Westchester	90044	0.8
Slauson Learning Center	260 North Locust Street	Inglewood	90301	1.9
South Bay Lutheran Preparatory Academy	3600 West Imperial Highway	Inglewood	90303	3.5
Warren Lane Elementary	9330 South 8th Avenue	Inglewood	90305	3.5
Westchester Lutheran School (1st through 8th Grade)	7831 South Sepulveda Boulevard	Westchester	90045	3.7
Wilder's Preparatory Academy (1st through 8th Grade)	830 North La Brea Avenue	Inglewood	90302	2.4
Worthington Elementary	11101 South Yukon Avenue	Inglewood	90303	3.2
HIGH SCHOOLS				
Animo Leadership High	1155 West Arbor Vitae Street	Inglewood	90301	0.4
City Honors High	155 West Kelso Street	Inglewood	90301	1.2
Hillcrest Academy High	441 West Hillcrest Boulevard	Inglewood	90301	0.7
Inglewood Community Adult School	106 East Manchester Boulevard	Inglewood	90301	1.4
Inglewood High	231 South Grevillea Avenue	Inglewood	90301	1.5
Lennox Mathematics, Science and Technology Academy	11036 Hawthorne Boulevard	Lennox	90301	1.6
Morningside High	10500 South Yukon Avenue	Inglewood	90303	2.7
Saint Mary's Academy	701 Grace Avenue	Inglewood	90301	2.3

Source: Trolia.com search of zip codes: 90045, 90301, and 90304

Emergency Services. No long-term impacts are anticipated for fire, police, and emergency response services as a result of the proposed project's Build Alternative 2. While project construction may create temporary yet minimal impacts in regard to emergency response times, the end result will improve traffic and circulation times for fire, police, and emergency services. Appropriate detours will be implemented as well as plans for proper fire, police, and emergency access during construction. Funds have been allocated to provide a Traffic Management Plan (TMP), which is developed and incorporated as part of the project design prior to the onset of

construction and to minimize disruption to the existing flow conditions. More information on the TMP can be found in Section 2.1.5 of this document entitled “Traffic and Transportation/Pedestrian and Bicycle Facilities.”

Table 16. Police and Fire Stations Serving Communities in the Project Area

Station	Address	Community	Zip Code	Miles from Project Area
COMMUNITY POLICE STATIONS				
Inglewood Police Headquarters	One Manchester Boulevard	Inglewood	90301	1.5
Inglewood Beat 2 Community Police Station	129 West Arbor Vitae Street	Inglewood	90301	0.8
City of Los Angeles Pacific Community Police Station	12312 Culver Boulevard	Westchester	90045	4.7
County of Los Angeles Lennox Sheriff Station	4331 West Lennox Boulevard	Lennox	90304	2.0
NEIGHBORHOOD FIRE STATIONS				
City of Los Angeles Fire Station 5	8900 Emerson Avenue	Westchester	90045	2.7
County of Los Angeles Fire Station 171	141 West Regent Street	Inglewood	90301	1.7
County of Los Angeles Fire Station 18	4518 West Lennox Boulevard	Lennox	90304	1.8

Source: City of Inglewood Police Department, City of Los Angeles Fire Department, City of Los Angeles Police Department, County of Los Angeles Fire Department, County of Los Angeles Sheriff Department

2.1.6 TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES

Traffic

The Arbor Vitae Street New South Half Interchange Improvement Project proposes to construct a new south half interchange on Interstate 405 (or I-405, a north-south principle highway) at Arbor Vitae Street (an east-west city arterial) in the City of Inglewood to alleviate current and future congestion at two adjacent interchanges to the north and south—Manchester Boulevard and Century Boulevard, respectively. Traffic volume in the project study area is only expected to increase in the future, and a failure to address congestion issues at the Manchester and Century Boulevard interchanges may create excessive queuing and weaving issues on the I-405 freeway mainline. The ensuing data and discussion has been compiled and prepared by the Caltrans Office of Freeway Operations, Office of Traffic Investigations, and the Division of Environmental Planning, with excerpts and methodology from the Highway Capacity Manual 2000.

TRAFFIC AND TRANSPORTATION

Affected Environment

A project study area was defined to assess the impact of project related traffic impacts on the community at large. The project area is located on Interstate 405 (I-405) at Arbor Vitae Street in the westernmost portions of the City of Inglewood, and adjacent to the City of Los Angeles limits (post miles 22.2-23.4). The purpose of the project is to alleviate congestion issues at the I-405/Manchester Boulevard interchange to the north of Arbor Vitae Street, and at the I-405/Century Boulevard interchange to the south, by providing an additional access point to major venues in the project study area, namely Centinela Hospital, Hollywood Park Casino, the Forum, and Los Angeles International Airport (LAX). Volume, Capacity, and Level of Service (LOS) analyses have been performed for the I-405 freeway mainline and on-and-off-ramp segments from Manchester and Century Boulevards on the north and south, and signalized city arterial intersections from LAX on the west to Prairie Avenue on the east.

See Figure 1-03. Arbor Vitae Project Map

Currently, the I-405 interchanges at Manchester and Century Boulevards are operating at or beyond their capacity limits during AM and PM peak travel periods. The two interchanges present challenges in the local arterial system that manifest in circulation issues and a deterioration of Level of Service, or “LOS” (measurements of delay, density, and travel time). Traffic studies

reveal that LOS at most on-and-off-ramp segments at Manchester and Century Boulevards are expected to deteriorate to LOS "D" or "E" by the year 2035 if congestion issues are not addressed.

Interstate 405 is widely known as one of the busiest freeways in metropolitan Los Angeles and in the world. The proposed project will not produce any significant operational improvements on the I-405 freeway mainline, but a continued failure to address congestion issues at the Manchester and Century Boulevard on-and-off-ramps may create mainline queuing and traffic weaving issues that will only exacerbate the dire traffic situation on the I-405 mainline.

Interstate 405 Freeway Mainline in the Project Study Area. The San Diego Freeway (Interstate 405, or I-405) is one of the principle north-south interstate highways in Southern California. The southernmost origin of Interstate 405 begins in the City of Irvine at the Golden State Freeway (or Interstate-5), and terminates at its northernmost point near the community of Mission Hills in the City of Los Angeles. Interstate 405 also serves as a major bypass to Interstate 5, and has played a historically significant role in the development of cities and suburbs and regional employment and commercial centers served by this arterial in the westernmost portions of Los Angeles and Orange Counties. Consequently, it is heavily utilized by commuters and freight truck traffic, and is considered one of the busiest and most congested freeways in the United States and the world. Additionally, the Interstate 405 freeway serves as a vital link in access to the world's fifth busiest airport, Los Angeles International Airport (LAX). The Glen Anderson Freeway (or Interstate 105) intersects Interstate 405 in an east-west direction roughly two (2) miles south of Arbor Vitae Street and also serves as a vital circulation link to LAX.

Signalized Intersections in the Project Study Area. An analysis of the local highway and arterial system in and around the project study area was performed to assess and analyze current circulation conditions and to provide modeling for conditions post-construction. West of the project study area, the Los Angeles International Airport (LAX) is the major venue served by the local highway and arterial system. State Route 1 (SR-1), or Lincoln Boulevard, is a Class I Major Highway that carries traffic in a north/south direction to/from Marina Del Rey in the north, and to El Segundo, Redondo Beach and other points in the south. SR-1 converges with another Class I Major Highway, Sepulveda Boulevard, as it approaches LAX, and it parallels the I-405 freeway, which exits roughly 1.5 miles to the east. In the same area, the aforementioned arterials are supported by two additional north/south arterials, Aviation and Airport Boulevards, which are classified as Class II Major City Highways.

Arbor Vitae Street originates at Airport Boulevard and traverses the project study area in an east-west direction. Traveling east, Arbor Vitae Street intersects La Cienega Boulevard, or what was proposed to be State Route 170 (SR-170, or the La Cienega Freeway) many years ago. This route has since been removed from the state highway program, but SR-170 would have aided in improving circulation in the area through a direct north-south connection from State Route 90 in the north to Los Angeles International Airport. In fact, a good portion of La Cienega Boulevard between Manchester Avenue (the former State Route 42) and Rodeo Road was constructed to freeway standards, but it has since become a "pseudo-expressway" maintained by Los Angeles County.

Just east of the intersection of La Cienega Boulevard and Arbor Vitae Street, the Arbor Vitae Street arterial crosses over the I-405 freeway and intersects Inglewood and La Brea Avenue (classified as a Class II Major City Highway) continuing east. Arbor Vitae Street continues further east approximately half of a mile before terminating at Prairie Avenue (also classified as a Class II Major City Highway).

The purpose of the proposed project is to construct a new south half interchange on I-405 at Arbor Vitae Street to alleviate congestion on the adjacent Manchester and Century Boulevard interchanges, but the most significant improvements would occur on the local highways and arterials in the project study area. Implementation of Alternative 2 would aid in improving

circulation, and provide additional/alternative access to LAX on the west, and Centinela Hospital, Hollywood Park Casino, and the Forum on the east. A need for an alternate route between I-405 and LAX has persisted since the mid-1970s, and has garnered heavy support not just from Los Angeles World Airports (LAWA), LAX's parent company, but also from the Cities of Los Angeles and Inglewood.

Potential Impacts—Interstate 405 Freeway Mainline, and Ramp and Weaving Segments

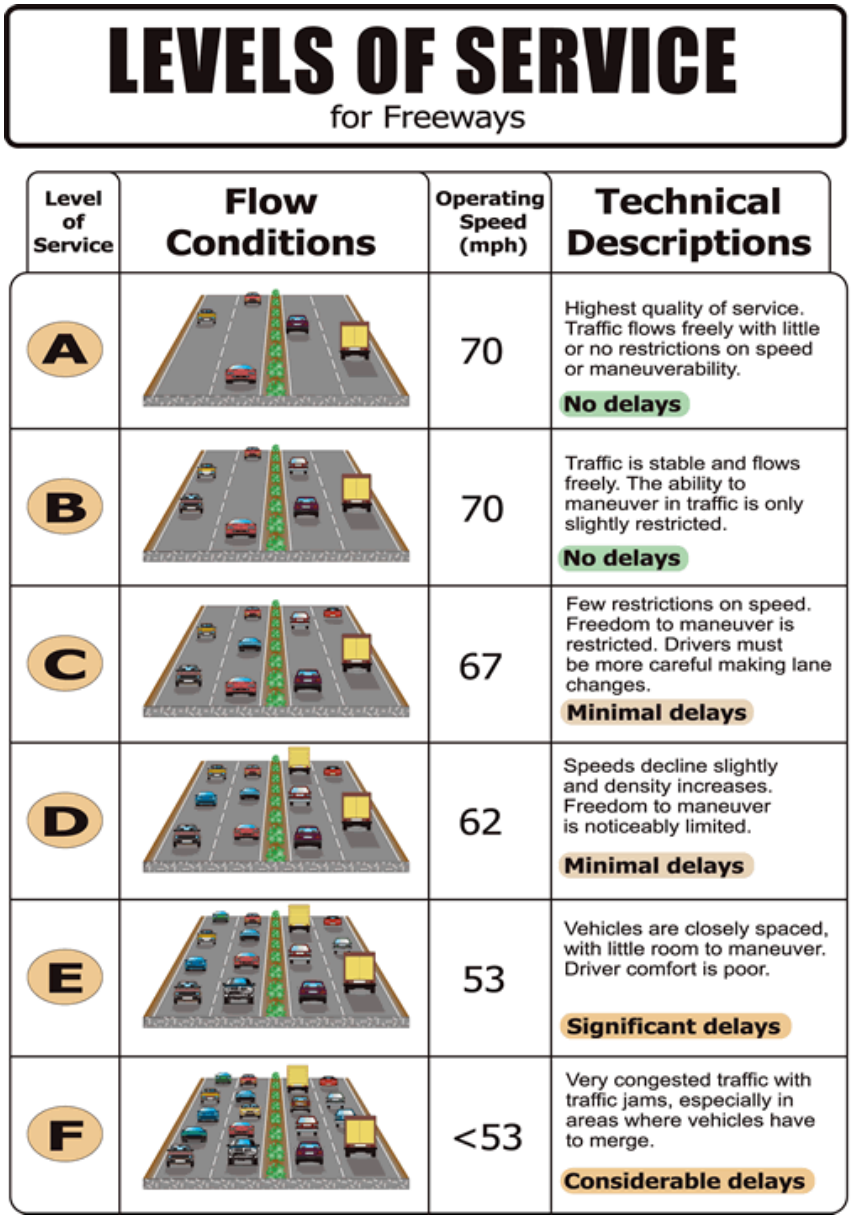
The freeway mainline analysis for the proposed project is based on methodology published in the Highway Capacity Manual (HCM) 2000. Freeway facilities are composed of connected segments, where each segment may be a basic freeway segment, ramp segment, or weaving segment.

- **Basic Freeway Segments.** These segments are not subject to merge activity.
- **Ramp Segments.** These segments contain an isolated merge or diverge area.
- **Weaving Segments.** These segments have a merge and diverge connected by at least one auxiliary lane.

Each of these types of segments has different operational characteristics, and different analysis procedures. Analysis and methodology of each segment as it pertains to the proposed project follows, utilizing guidelines from the appropriate chapter of the HCM 2000.

Basic Freeway Segments. The measure used to provide an estimate of Level of Service (LOS) is density, where density is calculated from the average vehicle flow rate per lane and the average speed (pc/mi/ln). The following figure illustrates the concept of LOS as it pertains to basic freeway segments, and the associated conditions and technical descriptions. The proposed pavement structural section is based on a Traffic Index of 14.

Figure 2-07. Level of Service for Freeways



Source: Highway Capacity Manual (HCM) 2000, Chapter 23 – Basic Freeway Segments

The specification of maximum densities for LOS A through D is based on the collective professional judgment of the members of the Committee on Highway Capacity and Quality of Service for the Transportation Research Board. The upper value for LOS E is the maximum density at which sustained flows at capacity are expected to occur. Failure, breakdown, congestion, and LOS F occur when queues begin to form on the freeway. Density (pc/mi/ln) tends to increase sharply within the queue and may be considerably higher than the maximum value of (45) passenger cars per lane per mile.

Basic freeway segments have uniform traffic conditions and roadway characteristics, such as the number of lanes, shoulder clearance, and grade. The following basic freeway segments were analyzed within the project study area:

1) Northbound Interstate 405, north of Interstate-105
2) Northbound Interstate 405, north of Century Boulevard
3) Southbound Interstate 405, north of Interstate-105
4) Southbound Interstate 405, north of Century Boulevard

Tables 17 and 18 below present the data for the existing freeway mainline condition during AM and PM Peaks, and modeled conditions for the years 2035 in both the Alternative 1 No-Build scenario and Build Alternative 2 scenario.

Table 17. I-405 Mainline Level of Service (LOS)-2035 AM Peak

	Level of Service (LOS)	
Location	**No Build (ALT 1)**	**ALT 2**
Interstate 405 Northbound	F	F
Interstate 405 Southbound	F	F

Source: Caltrans District 7 Office of Freeway Operations

Table 18. I-405 Mainline Level of Service (LOS)-2035 PM Peak

	Level of Service (LOS)	
Location	**No Build (ALT 1)**	**ALT 2**
Interstate 405 Northbound	E	E
Interstate 405 Southbound	F	F

Source: Caltrans District 7 Office of Freeway Operations

In an analysis of the preceding data, and comparison of both the Alternative 1 No-Build scenario and the Alternative 2 Build scenario, it becomes evident that the proposed project will not improve operations and LOS on the Interstate 405 freeway mainline. The purpose of the proposed project is to alleviate congestion at the I-405/Manchester Boulevard and I-405/Century Boulevard interchanges, and not to increase capacity or alleviate congestion on the freeway mainline. In fact, I-405 mainline operations in the vicinity of the project area can be expected to deteriorate (as highlighted in yellow above) due to ambient growth in traffic volumes alone according to data from Caltrans Freeway Operations Office. Existing and projected traffic volumes for the I-405 Freeway Ramp/Collector Segments within the project study area are presented in Tables 19 and 20 on the following page, and scrutinized for AM and PM peak travel periods in the year 2035.

The following ramp/collector segments were analyzed within the project study area:

1) Northbound Offramp to Century Boulevard
2) Northbound Offramp to Manchester Boulevard
3) Southbound Onramp from La Cienega Boulevard/Olive Avenue
4) Southbound Offramp to Westbound Century Boulevard
5) Segment Between Northbound Collector-Distributor/Manchester Offramp-Northbound Manchester Offramp

Table 19. I-405 Ramp/Collector Segments Level of Service (LOS)-2035 AM Peak

	Level of Service (LOS)	
Location	No Build (ALT 1)	ALT 2
Northbound Offramp to Century Boulevard	D	B
Northbound Offramp to Manchester Boulevard	F	C
Southbound Onramp from La Cienega Boulevard/Olive Avenue	B	A
Southbound Offramp to Westbound Century Boulevard	D	E
Segment Between Northbound Collector-Distributor/Manchester Offramp-Northbound Manchester Offramp	F	D

Source: Caltrans District 7 Office of Freeway Operations

Table 20. I-405 Ramp/Collector Segments Level of Service (LOS)-2035 PM Peak

	Level of Service (LOS)	
Location	No Build (ALT 1)	ALT 2
Northbound Offramp to Century Boulevard	B	A
Northbound Offramp to Manchester Boulevard	E	B
Southbound Onramp from La Cienega Boulevard/Olive Avenue	B	A
Southbound Offramp to Westbound Century Boulevard	D	F
Segment Between Northbound Collector-Distributor/Manchester Offramp-Northbound Manchester Offramp	E	B

Source: Caltrans District 7 Office of Freeway Operations

Accident Rates at Project Segment versus the State Average. Accident rates for a three-year period were compared to the statewide average rate for similar facilities using the Traffic Accident Surveillance and Analysis System (TASAS). The three-year period extended from October 1, 2004 to September 30, 2007. For the mainline, collectors and ramps of I-405, these rates and comparisons for the project study area are summarized in Table 21 below and Table 22 on the following page.

Table 21 below indicates that actual accident rates in the northbound direction were 0.78 accidents/million vehicle miles (MVM) higher than the state average – an actual rate of 2.17 accidents/MVM compared with the average of 1.39 accidents/MVM.

Table 21. Accident Rate Data for Interstate 405 Mainline

Facility	TASAS Selective Accident Rate Calculation for Interstate 405 Mainline						
	Accident Rate						Number of Accidents Total
	Actual (Accidents /MVM)			Average (Accidents/MVM)			
Segment Description	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total	
Northbound Interstate 405	0	0.66	2.17	0.007	0.44	1.39	420
Southbound Interstate 405	0.005	0.27	0.67	0.007	0.44	1.39	133

Source: TASAS Selective Record Retrieval for the period of October 1, 2004 to September 30, 2007

Table 22. Accident Rate Data for Interstate 405 Collectors and Ramps

TASAS Selective Accident Rate Calculation for Interstate 405 Collectors and Ramps Facility	Accident Rate						Number of Accidents Total
	Actual (Accidents /MV)			Average (Accidents/MV)			
	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total	
Collectors							
Northbound Onramp from Eastbound Century Boulevard	0	0	0.45	0.001	0.24	0.7	6
Segment of Northbound Collector North of Century Boulevard	0	0.06	0.15	0.002	0.1	0.35	5
Segment of Northbound Onramp from Westbound Century Boulevard	0	0.62	1.25	0.003	0.22	0.6	8
Northbound Offramp for Manchester/La Cienega Boulevards	0	0.12	0.32	0.006	0.33	0.9	11
Segment of Northbound Collector from Century to Manchester Boulevard	0	0.1	0.36	0.002	0.1	0.35	15
Southbound Offramp to Century Boulevard	0	0.07	0.21	0.002	0.08	0.25	8
Ramps							
Segment of Southbound Onramp from South of Century Boulevard	0	0.2	0.79	0.002	0.2	0.6	8
Northbound Offramp to Century Boulevard	0	0.17	0.75	0.005	0.61	1.5	13
Southbound Onramp from Olive/Manchester Boulevards	0.06	0.48	1.27	0.002	0.2	0.6	21
Segment of Southbound Offramp to Eastbounb Century Boulevard	0	0.23	0.93	0.004	0.28	0.8	8
Segment of Northbound Offramp to Manchester Boulevard	0	0.38	0.92	0.005	0.61	1.5	17

MV = million vehicles

Source: TASAS Selective Record Retrieval for the period of October 1, 2004 to September 30, 2007

According to the TASAS Selective Record Data, 420 accidents occurred on the northbound portion of I-405 and 133 accidents occurred on the southbound mainline I-405, within the project study limits. Additionally, 51 accidents occurred on the freeway collectors and 67 accidents occurred on the freeway on- and off-ramps. Of the 671 total accidents that occurred during the three-year period, 59 percent were rear-end collisions, 16 percent were accidents due to hitting an object, 20 percent were sideswipe accidents, 3 percent were broadside accidents, 2 percent were overturned vehicles, and 1 percent was the result of other types of mishaps. The primary collision factor for accidents was congestion-related, rear-end collisions or sideswipes. The total accident rate record from October 1, 2004 to September 30, 2007 reveals actual accident rates higher for the Northbound mainline I-405 freeway than the state average for similar facilities (2.17 accidents per million vehicles compared to the state average of 1.39 accidents per MVM for similar facilities). Also, two (2) freeway collectors, two (2) on-ramps, and one (1) off-ramp within the project limits had actual accident rates higher than the statewide average accident rate for similar facilities. Implementation of Build Alternative 2 (Arbor Vitae Street New South Half Interchange) will reduce traffic congestion and may decrease the accident rates in this stretch of the Interstate 405 freeway.

Ramp Segments. A ramp is a length of roadway providing an exclusive connection between two highway facilities. On freeways, all entering and exiting maneuvers take place on ramps that are designed to facilitate merging of vehicles into the freeway traffic stream and diverging vehicles from the freeway traffic stream onto the ramp. Level of Service (LOS) in merge and diverge influence areas are defined in terms of density for all cases of stable operation, LOS A through E. LOS F exists when the demand exceeds the capacity of upstream or downstream freeway sections or the capacity of an off-ramp. Ramp junction segments within the project study area are analyzed using capacity and LOS concepts from HCM 2000 Chapter 25—Ramps and Ramp Junctions. Table 23 on the following page presents LOS for merge and diverge areas.

Table 23. Level of Service for Ramp Junction Segments

LOS	Description of Traffic Conditions	Density Range (pc/mi/ln)
A	Unrestricted operations. Density (pc/mi/ln) is low enough to permit smooth merging and diverging, with virtually no turbulence in the traffic stream.	<= 10.0
B	Merging and diverging maneuvers become noticeable to through drivers, and minimal turbulence occurs.	> 10.0-20.0
C	Speed within the influence area begins to decline as turbulence levels become noticeable. Both ramp and freeway vehicles begin to adjust their speeds.	> 20.0-28.0
D	Turbulence levels in the influence area become intrusive, and virtually all vehicles slow to accommodate merging and diverging. Ramp queues may form.	> 28.0-35.0
E	Conditions approaching capacity. Speeds reduce significantly, and turbulence is felf by virtually all drivers. Ramp and freeway queues may form.	> 35.0
F	Demand exceeds capacity.	

Source: Highway Capacity Manual (HCM) 2000 Chapter 25 – Ramps and Ramp Junctions pc/mi/ln = passenger cars, per mile, per lane

A ramp consists of three geometric elements of interest: the ramp-freeway junction, the ramp roadway, and the ramp-street junction. A conventional Level of Service (LOS) analysis of the merge and diverge areas where ramps and connectors join the I-405 freeway within the project study area was performed as part of the freeway analysis described in the previous section. This portion of the traffic analysis is focused on determining whether or not the existing and proposed ramp roadway configurations are consistent with current Caltrans design standards under forecasted traffic conditions. The design of ramp roadways is seldom a source of operational difficulty unless a traffic incident causes disruption along their length. According to the purpose and need for this project, construction of a new south half interchange at Arbor Vitae Street would alleviate current and future congestion at two adjacent interchanges to the north and south—Manchester and Century Boulevards, respectively. LOS analysis was performed for both existing interchanges for the Alternative 1 No-Build and Alternative 2 Build scenarios as presented in Table 24 below and Table 25 on the following page.

Table 24. LOS Analysis for Manchester and Century Boulevard Ramp Segments—Alt. 1

	2007				2014				2035			
	AM		PM		AM		PM		AM		PM	
Ramp Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Northbound Offramp to Century Boulevard	21.87	C	13.41	B	23.46	C	14.39	B	28.91	D	17.74	B
Northbound Onramp from Eastbound Century Boulevard	21.89	C	24.49	C	23.49	C	26.26	D	28.97	D	32.37	D
Northbound Offramp to Manchester Boulevard	43.74	E	28.00	D	>45.00	F	30.03	D	>45.00	F	37.03	E
Northbound Onramp from Eastbound Manchester Boulevard	16.63	B	12.83	B	17.83	B	13.77	B	22.00	C	17.00	B
Northbound Onramp from Westbound Manchester Boulevard	29.17	D	17.80	B	31.29	D	19.09	C	38.57	E	23.54	C
Southbound Offramp to Westbound Century Boulevard	24.20	C	20.43	C	25.97	C	21.91	C	32.03	D	27.03	D
Southbound Onramp from Westbound Century Boulevard	16.02	B	20.71	C	17.23	B	22.23	C	21.26	C	27.40	D

pc/mi/ln = passenger cars, per mile, per lane
LOS = Level of Service

Table 25. LOS Analysis for Manchester and Century Boulevard Ramp Segments—Alt. 2

	2007				2014				2035			
	AM		PM		AM		PM		AM		PM	
Ramp Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Northbound Offramp to Century Boulevard	21.87	C	13.41	B	17.67	B	10.46	A	17.39	B	10.20	A
Northbound Onramp from Eastbound Century Boulevard	21.89	C	24.49	C	24.57	C	25.23	C	33.17	D	27.91	D
Northbound Offramp to Manchester Boulevard	43.74	E	28.00	D	35.34	E	21.74	C	22.71	C	11.26	B
Northbound Onramp from Eastbound Manchester Boulevard	16.63	B	12.83	B	17.74	B	13.09	B	21.40	C	14.09	B
Northbound Onramp from Westbound Manchester Boulevard	29.17	D	17.80	B	30.37	D	19.06	C	34.54	D	23.23	C
Southbound Offramp to Westbound Century Boulevard	24.20	C	20.43	C	27.97	D	34.49	D	39.77	E	>45.00	F
Southbound Onramp from Eastbound Century Boulevard	16.02	B	20.71	C	12.74	B	15.66	B	10.03	A	10.83	A

pc/mi/ln = passenger cars, per mile, per lane
LOS = Level of Service

Table 24 presents the data for the Alternative 1 No-Build scenario, and shows a continued decline in LOS at nearly all ramp segments at Manchester and Century Boulevards by the year 2035. Table 25 illustrates LOS projected conditions with the implementation of Alternative 2 Build scenario in comparison to existing conditions, with improvements in LOS at the following ramp segments by 2035:

- Northbound I-405 Off-ramp to Century Boulevard
- Northbound I-405 Off-ramp to Manchester Boulevard
- Southbound I-405 On-ramp from Eastbound Century Boulevard
- Southbound I-405 Collector-Distributor at Westbound Century Boulevard On-ramp/Eastbound Century Boulevard Off-ramp

One capacity value that affects ramp-freeway junction operations is an effective maximum number of freeway vehicles that can enter the ramp junction influence area without causing local congestion and long queuing. For on-ramps, the total entering flow in the two outside freeway lanes plus the on-ramp flow cannot exceed 4,600 passenger cars per hour. For off-ramps, the total flow in the two outside freeway lanes (including the exiting volume) cannot exceed 4,400 passenger cars per hour. Demands exceeding these values tend to cause local congestion and queuing. The purpose of the proposed project is to construct a new south half interchange at Arbor Vitae Street to alleviate congestion at the two adjacent interchanges just north and south (Manchester and Century Boulevards, respectively) of this street. On/off-ramp capacity and existing and modeled future volumes are expressed in Table 26 on the next page.

Access and Freeway Connector Volumes. A summary of the existing ramp and connector lanes and volumes is presented in Table 26 on the following page. The slip ramp between the Northbound Interstate 405 Collector-Distributor and Offramp to Manchester Boulevard and La Cienega Boulevard currently operates above the design capacity of the offramp. Thus a mark is contained in the “Flag” column of Table 26. All other ramps within the project study area have sufficient capacity to satisfy existing demand, though improvements will need to be made in the future to meet projected volume/capacity increases.

Table 26. Ramp Design Capacity and Modeled Volumes – Existing Condition (Year 2007)

Post Mile	Ramp Description	Segment Type	Lanes	Capacity (veh/hr)	AM Volume (veh/hr)	PM Volume (veh/hr)	AADT
Northbound I-405							
21.2	Northbound Offramp to Century Boulevard	Offramp	2	3,200	1,531	939	16,118
22.2	Northbound Onramp from Eastbound Century Boulevard	Onramp	2	3,200	766	857	11,426
22.2	Northbound Onramp from Westbound Century Boulevard	Onramp	2	3,200	633	409	6,325
22.5	Northbound Interstate 405 Collector-Distributor/Offramp to Manchester Boulevard and La Cienega Boulevard	Offramp	2	3,200	2,602	2,143	34,480
22.7	Slip ramp between Northbound Interstate 405 Collector-Distributor and Northbound Offramp to Manchester Boulevard	Offramp	1	1,600	1,633	908	13,568
23.2	Northbound Offramp to Manchester Boulevard	Offramp	1	1,600	1,531	980	17,852
23.7	Northbound Onramp from Eastbound Manchester Boulevard	Onramp	2	1,800	582	449	6,223
23.7	Northbound Onramp from Westbound Manchester Boulevard	Onramp	2	1,800	1,021	623	10,201
Southbound I-405							
22.8	Southbound Offramp to Westbound Century Boulevard	Offramp	1	1,600	847	715	15,098
22.2	Southbound Onramp to Westbound Century Boulevard	Onramp	1	1,600	378	470	4,795
22.8	Southbound Offramp to Eastbound Century Boulevard	Offramp	1	1,600	225	480	4,183
22.2	Southbound Onramp to Eastbound Century Boulevard	Onramp	1	1,600	562	725	10,099

Veh/hr = vehicles per hour AADT = average annual daily traffic

Weaving Segments. Weaving is defined as the crossing of two or more traffic streams traveling in the same general direction along a length of highway without the aid of traffic control devices. Weaving segments are formed when a merge area is closely followed by a diverge area, or when an on-ramp is closely followed by an off-ramp and the two are joined by an auxiliary or collector-distributor lanes. Weaving segments require intense lane-changing maneuvers as drivers must access lanes appropriate to their desired exit points. Traffic in a weaving segment is subject to turbulence in excess of that normally present on basic freeway segments, which present special operational problems and design requirements.

Freeway weaving segments within the study area are also analyzed using capacity and Level of Service (LOS) concepts from HCM 2000. The measure used to provide an estimate of level of service is density, where density is calculated from the weaving traffic volume, the non-weaving traffic volume, and the type of weaving configuration. LOS for a weaving segment are summarized in Table 27 below.

Table 27. LOS for Weaving Segments

LOS	Density Range (pc/mi/ln)
A	<= 10.0
B	> 10.0 - 20.0
C	> 20.0 - 28.0
D	> 28.0 - 35.0
E	> 35.0 - 43.0
F	> 43.0

pc/mi/ln = passenger cars per mile, per lane

Within the project study area, the following weaving segments have been analyzed:

- **Segment 1:** Auxiliary/collector-distributor lanes on the Northbound I-405 mainline; weaving segment where on-ramp traffic from Century Boulevard (freeway access from Westbound Century Boulevard) enters on the auxiliary/collector-distributor lanes and converges with traffic exiting the mainline to access the slip-ramp which provides access to Manchester and La Cienega Boulevards.
- **Segment 2:** Weaving segment where Northbound I-405 mainline traffic exits to Manchester and La Cienega Boulevards; where slip ramp meets auxiliary/collector-distributor utilized by traffic originating at I-105 (south of Century).

- **Segment 3:** Weaving segment on Southbound I-405 where on-ramp traffic from Century enters mainline and where I-405 mainline exits to Century Boulevard off-ramp.

The most critical aspect of operations within a weaving segment is lane changing. Weaving vehicles, which must cross a roadway to enter on the right and leave on the left, or vice versa, accomplish these maneuvers by making the appropriate lane changes. The relative placement of entry and exit lanes has a major effect on the number of lane changes required of weaving vehicles. The HCM 2000 procedure includes adjustments to the estimated speed of weaving and non-weaving vehicles based on the configuration of the weaving segment. Tables 28 and 29 below present LOS data for the aforementioned weaving segments:

Table 28. Alternative 1 No-Build Scenario—LOS Analysis for Weaving Segments on I-405

	2007						2014						2035					
	AM			PM			AM			PM			AM			PM		
Weaving Segment	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Between Northbound Onramp from Westbound Century Boulevard Slip Ramp	30	43.90	F	38	27.60	C	29	48.10	F	37	30.20	C	27	63.40	F	35	39.60	E
Between Northbound Collector Distributor of Manchester Boulevard Offramp to Northbound Manchester Boulevard Offramp	43	36.80	E	43	26.30	C	42	40.10	F	43	28.70	C	40	52.20	F	41	37.20	E
Southbound Interstate 405 Collector Distributor. on Westbound CenturyBoulevard to offramp to Eastbound Century Boulevard	45	12.48	B	40	24.17	C	44	13.63	B	39	26.51	C	42	17.78	B	36	35.09	D

pc/mi/ln = passenger cars, per mile, per lane
LOS = Level of Service

If Alternative 1 is selected, and no action is taken to construct the proposed new half-interchange at Arbor Vitae Street, LOS in all three weaving segments can be expected to deteriorate through the year 2035. The most significant deterioration in service would occur in Segment 3 on Southbound I-405. 2007 data currently shows a satisfactory LOS of “C”, but if no action is taken, LOS can be expected to fall to LOS “D.”

Table 29. Build Alternative 2 Scenario—LOS Analysis for Weaving Segments on I-405

	2007						2014						2035					
	AM			PM			AM			PM			AM			PM		
Weaving Segment	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Between Northbound Onramp from Westbound Century Boulevard Slip Ramp	30	43.90	F	38	27.60	C	31	46.10	F	41	29.30	C	33	56.00	F	40	35.80	D
Between Northbound Collector Distributor of Manchester Boulevard Offramp to Northbound Manchester Boulevard Offramp	43	36.80	E	43	26.30	C	44	32.30	D	46	20.30	B	40	34.90	D	49	12.80	B
Southbound Interstate 405 Collector Distributor. on Westbound CenturyBoulevard to offramp to Eastbound Century Boulevard	45	12.48	B	40	24.17	C	39	13.50	B	39	20.73	B	34	8.85	A	31	10.53	A

pc/mi/ln = passenger cars, per mile, per lane
LOS = Level of Service

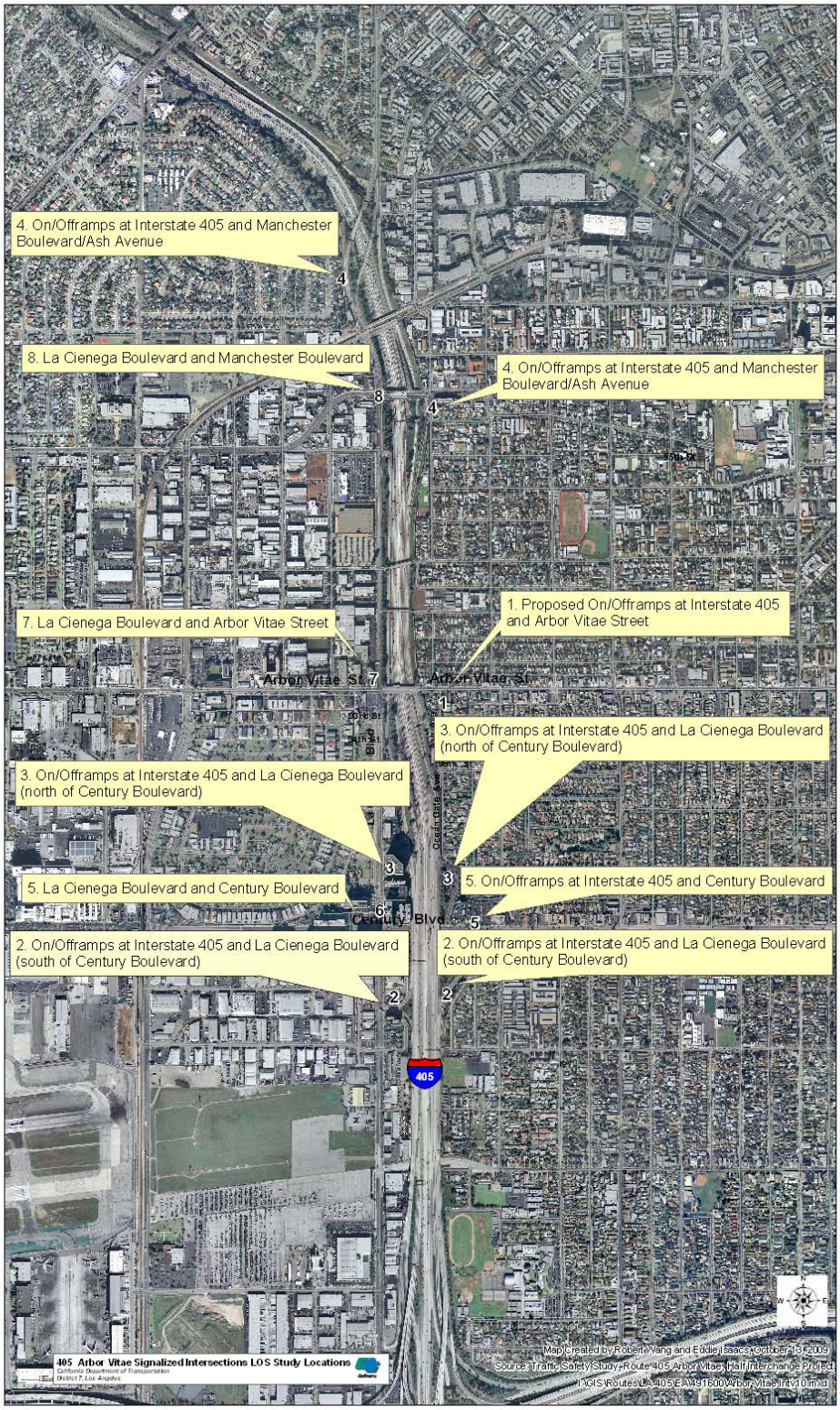
Analysis of LOS for all three weaving segments in the Build Alternative 2 scenario shows no improvements for Segment 1, with a minimal decrease in PM peak LOS in 2035, but this can likely be attributed to ambient growth in volume. Significant improvements are evident in Segments 2 and 3 with conditions improving to LOS “C” and “A” respectively by the year 2035.

Potential Impacts—Signalized Intersections in Project Study Area

Caltrans has performed analysis that focuses on potential impacts associated with construction of the new Arbor Vitae Street interchange facilities, and associated impacts/improvements to the highway and arterial system in the project study area. Volume and travel time delay for the following intersections in the project vicinity were analyzed in the existing condition (2007) and modeled for both the Alternative 1 No-Build and Build Alternative 2 scenarios in forecast years 2014 and 2035:

1) Proposed On/Off-ramps at Interstate 405 and Arbor Vitae Street
2) On/Off-ramps at Interstate 405 and La Cienega Boulevard (south of Century Boulevard)
3) On/Off-ramps at Interstate 405 and La Cienega Boulevard (north of Century Boulevard)
4) On/Off-ramps at Interstate 405 and Manchester Boulevard/Ash Avenue
5) On/Off-ramps at Interstate 405 and Century Boulevard
6) La Cienega Boulevard and Century Boulevard
7) La Cienega Boulevard and Arbor Vitae Street
8) La Cienega Boulevard and Manchester Boulevard

Figure 2-08. Locations of Analyzed Intersections in Project Study Area



Traffic conditions at signalized intersections were evaluated using HCM 2000 operations methodology, which evaluates capacity in terms of the volume-to-capacity ratio and evaluates LOS based on controlled delay per vehicle. Controlled delay is defined as the portion of the total delay attributed to the traffic signal operation including deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The relationship between controlled delay per vehicle and LOS for signalized intersections is summarized in Table 30 LOS for Signalized Intersections below.

Table 30. LOS for Signalized Intersections

LOS	Description of Traffic Conditions	Controlled Delay (sec/veh)
A	Insignificant delays; no approach phase is fully utilized and no vehicle waits longer than one red indication.	<= 10.0
B	Minimal delays; an occasional approach phase is fully utilized. Drivers begin to feel restricted.	> 10.0-20.0
C	Acceptable delays; major approach phase may become fully utilized. Most drivers feel somewhat restricted.	> 20.0-35.0
D	Tolerance delays; drivers may wait through more than one red indication. Queues may develop but dissipate rapidly, without excessive delays.	> 35.0-55.0
E	Significant delays; volumes approaching capacity. Vehicles may wait through several cycles and long vehicle queues form upstream.	> 55.0-80.0
F	Excessive delays; represents conditions at capacity, with extremely long delays. Queues may block upstream intersections.	> 80.0

Source: Highway Capacity Manual (HCM) 2000 Chapter 25 – Ramps and Ramp Junctions
sec/veh = seconds per vehicle

Level of Service (LOS) analysis was performed for the (13) listed signalized intersections in the project study area using the methodology illustrated in Figure 2-08 above. AM and PM peak delay for the existing (2007) and future (2014/2035) conditions are presented in Table 31 below and Table 32 on the following page. In 2014, only three intersections studied in the tables below would have a better LOS and less delay with Build Alternative 2 than with No-Build Alternative 1. Five of the eight intersections studied in the tables below, Build Alternative 2 would have a better LOS and less delay than No-Build Alternative 1 in 2035.

Table 31. Alternative 1 No-Build Scenario—Delay/LOS Analysis for Signalized Intersections

	Intersection	Existing (2007)				2014				2035			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
1	Proposed On/Offramps at Interstate 405 and Arbor Vitae Street												
2	On/Offramps at Interstate 405 and La Cienega Boulevard (south of Century Boulevard)	24.0	C	25.8	C	24.8	C	26.8	C	32.9	C	39	D
3	On/Offramps at Interstate 405 and La Cienega Boulevard (north of Century Boulevard)	132.7	F	43.2	D	159.2	F	46	D	247.6	F	112.6	F
4	On/Offramps at Interstate 405 and Manchester Boulevard/Ash Avenue	201.8	F	91.3	F	223.9	F	105.4	F	363.2	F	62.4	E
5	On/Offramps at Interstate 405 and Century Boulevard	137.6	F	92.4	F	152.2	F	104.5	F	271.0	F	184.2	F
6	La Cienega Boulevard and Century Boulevard	66.2	E	112.2	F	79.8	E	129.2	F	137.8	F	205.6	F
7	La Cienega Boulevard and Arbor Vitae Street	31.7	C	43.9	D	16	B	18.3	B	33.4	C	48.5	D
8	La Cienega Boulevard and Manchester Boulevard	51.3	D	59.9	E	63.3	E	69.8	E	137.7	F	114.9	F

sec/veh = seconds per vehicle
LOS = Level of Service

Table 32. Build Alternative 2 Scenario—Delay/LOS Analysis for Signalized Intersections

	Intersection	Existing (2007)				2014				2035				
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		
		Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	IMPACT
1	Proposed On/Off-ramps at Interstate-405 and Arbor Vitae Street					43.8	D	61.3	E	102.8	F	100.6	F	N/A
2	On/Off-ramps at Interstate-405 and La Cienega Boulevard (south of Century Boulevard)	24.0	C	25.8	C	25.1	C	24.3	C	35	D	34.8	C	better
3	On/Off-ramps at Interstate-405 and La Cienega Boulevard (north of Century Boulevard)	132.7	F	43.2	D	150.1	F	46.7	D	301.1	F	90.6	F	better
4	On/Off-ramps at Interstate-405 and Manchester Boulevard/Ash Avenue	201.8	F	91.3	F	125.8	F	31.9	F	208	F	175.4	F	worse
5	On/Off-ramps at Interstate-405 and Century Boulevard	137.6	F	92.4	F	104.0	F	51.7	D	195.3	F	100.1	F	better
6	La Cienega Boulevard and Century Boulevard	66.2	E	112.2	F	73.3	E	53.6	D	88.9	F	123.7	F	better
7	La Cienega Boulevard and Arbor Vitae Street	31.7	C	43.9	D	64.1	E	75.7	E	139.1	F	220.3	F	worse
8	La Cienega Boulevard and Manchester Boulevard	51.3	D	59.9	E	27.6	C	32.9	C	55.2	D	64.5	E	better

sec/veh = seconds per vehicle
LOS = Level of Service

Avoidance, Minimization, and/or Mitigation Measures

Commute Savings

Cost-Benefit Analysis. Vehicles hours traveled increased by 35,583 hours and vehicle miles traveled increased by 13,128 miles on a regional scale with the Build Alternative 2 versus No-Build Alternative 1. On a smaller subregional scale, vehicles hours traveled decreased by 32,776 hours and vehicle miles traveled decreased by 1,942 with Alternative 2 versus Alternative 1. The subregional area created by Jonathan Osborn of the Office of Advance Planning extends from Marina Del Rey, Playa Del Rey, and LAX on the west, the eastern city limits of Inglewood on the east to include Inglewood Park Cemetery, the Forum and Hollywood Park Casino, just north of SR-90 in Los Angeles and Culver City in the north, and just south of I-105 in Los Angeles, El Segundo, and Hawthorne in the south. Cost-benefit ratio is 0.75, below the 1.00 expected of a construction project. Also, any savings to be realized are unlikely to be commute savings since the trips being shortened are mostly noncommute trips bound for LAX. As such, commute savings would be irrelevant. Also, the savings by individual trip are likely to be negligible, fractions of a minute if not a second. The full recovery of the project's costs is 27 years. See Table 33 for the subregional scale statistics below and Table 34 for the regional scale statistics on the following page.

Table 33. Cost-Benefit Analysis (2035) for Subregional Area

Alternative	Vehicle Hours Traveled	Vehicle Miles Traveled
No Build	15,610,620	6,545,023
Build	15,577,843	6,543,081
Difference	**32,776**	**1,942**

Source: SCAG 2035 RTP Baseline Scenario

Table 34. Cost-Benefit Analysis (2035) for Regional Area

Alternative	Vehicle Hours Traveled	Vehicle Miles Traveled
No Build	1,197,891,623	558,958,037
Build	1,197,927,206	558,971,165
Difference	**-35,583**	**-13,128**

Source: SCAG 2035 RTP Baseline Scenario

Traffic Management Plan (TMP). A TMP will be prepared based on the preliminary stage construction concept that has been developed for the proposed project, and is subject to change at any time, especially as the project design is finalized. With a few exceptions, the construction of the new ramps for the proposed half-interchange will take place adjacent to freeway mainline traffic and can generally be constructed while maintaining traffic conditions on the existing roadway. Existing freeway mainline, collector/distributor lanes, and ramps will likely require only restriping work, as needed. It is anticipated that detoured traffic on local streets will be minimal. A preliminary construction staging plan has been prepared, nevertheless, to minimize traffic impacts in the project area, and areas adjacent. At this time, only the staging plan has been developed, and the duration of activities have not yet been estimated. This preliminary staging plan is presented in Table 35 below, and is also subject to change at any time as the project approaches finalization in design.

Table 35. Preliminary Construction Staging Plan to Minimize Traffic Impacts

	Segment	Lane Number	Work Description
Overall Project			
Stage 1	Interstate 405 and Arbor Vitae Street Overcrossing	8;6	Construction work areas will be set up adjacent to traffic lanes so that excavation work, retaining wall construction, and bridge wall construction can begin.
Stage 2	Century Boulevard and Arbor Vitae Street Overcrossings	6;6	Grading work and retaining wall construction will begin. Where feasible, soundwalls will be constructed during this stage. Bridge construction will begin at 3 locations: The Century Collector Overcrossing Bridge on Northbound Offramp Collector Road will be replaced, a new multi-span bridge will be constructed for the new Southbound Onramp from Arbor Vitae Street, and the Arbor Vitae Overcrossing will be widened.
Stage 3	Interstate 405 and Arbor Vitae Street Overcrossings	8;6	The remainder of the roadwork will be completed. The work may require some intermittent closures of short duration for various freeway facilities in the area.
Century Connector	**Overcrossing**		
Stage 1	Northbound Interstate 405 Onramp Bridge at Century Boulevard	2	Retaining walls be constructed and a temporary roadway for the Northbound Collector Road Onramp going over the Northbound Collector Road Offramp will be constructed to detour traffic. A temporary bridge will be constructed to accommodate the detour.
Stage 2	New Century Collector Overcrossing	2	A portion of the new Century Collector Overcrossing will be constructed. After its completion, Northbound Collector Road Onramp will be moved back to its original alignment and the temporary bridge removed.
Stage 3	Northbound Interstate 405 Onramp Bridge at Century Boulevard	2	The temporary detour will be removed and the remainder of the Century Collector Overcrossing will be constructed.
Southbound Arbor	**Vitae Street Onramp**	**Bridge**	
Stage 1	Southbound Interstate 405 Onramp Bridge at Arbor Vitae Street	2	Columns and abutments for new bridge structure will be constructed.
Stage 2	Southbound Interstate 405 Onramp Bridge at Arbor Vitae Street	2	The bridge superstructure will be constructed.
Arbor Vitae	**Street Overcrossing**	**Widening**	
Stage 1	Interstate 405 Arbor Vitae Street Overcrossing	6	Columns and abutments for widened bridge structure will be constructed.
Stage 2	Interstate 405 Arbor Vitae Street Overcrossing	8	The bridge superstructure will be constructed.

Source: LA405/Arbor Vitae New South Half Interchange Traffic Management Plan (TMP)

The proposed project will not require lengthy closures of freeway facilities in the project area. Intermittent closures of short duration are expected for the southbound I-405 on-ramp from Olive/Manchester, as well as the northbound collector road on-ramp. Some circulation interference is also expected along Arbor Vitae Street where the overcrossing will be widened. Construction related traffic delays are not expected to be significant.

The following elements may be included in the TMP to help in minimizing temporary traffic impacts:

1) Public Awareness Campaign to inform motorists of proposed construction
2) Construction Zone Enhanced Enforcement Program (COZEEP). This is a program administered by the Resident Engineer to minimize safety impacts not only to the community at large, but possible safety impacts to construction workers such as the reduction of speed of traffic in work zones. The program can be very effective in enhancing safety in the project zone.
3) Portable and changeable messaging signage
4) Implementation of a traffic management team
5) If identified, cooperative agreements with local agencies will be developed to provide enhanced infrastructure on local arterials. Detours on local streets are expected to be minimal.

Transportation/Pedestrian and Bicycle Facilities

Considerations. Caltrans as assigned by FHWA, directs that full consideration should be given to the safe accommodation of pedestrian and bicyclists during the development of federal-aid highway projects (see 23 CFR 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize detrimental effects on all highway users who share the facility.

Caltrans is committed to carrying out the 1990 American with Disabilities Act (ADA) by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

The accommodation of pedestrians and bicyclists, and full compliance with ADA standards will be an integral part in the development of the project and the Transportation Management Plan (TMP), which will outline specific design guidelines to ensure proper facilities and access during and after project construction. It is Caltrans' and the Contractor's responsibility to provide for the safety of the public during construction.

2.1.7 VISUAL/AESTHETICS

Regulatory Setting. The National Environmental Policy Act of 1969 as amended (NEPA) establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* and culturally pleasing surroundings [42 U.S.C. 4331(b)(2)]. To further emphasize this point, the Federal Highway Administration in its implementation of NEPA [23 U.S.C. 109(h)] directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

Likewise, the California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of aesthetic, natural, scenic, and historic environmental values." [CA Public Resources Code Section 21001(b)].

Visual Impact Assessment (VIA). A VIA has been prepared by Caltrans' Division of Landscape Architecture according to guidelines set forth by the Federal Highway Administration (FHWA). While the project does not have the potential to affect any officially designated scenic highways, a VIA was performed, nevertheless, that aims to:

- Define the project setting and viewshed
- Identify key views for visual assessment
- Analyze existing visual resources and viewer response
- Analyze attributes such as line, form, color, texture, dominance, scale, diversity, and continuity
- Analyze visual quality as measured by vividness, intactness, and unity
- Depict the visual appearance of project alternatives
- Assess the visual impacts of project alternatives
- Propose methods to avoid, minimize, and/or mitigate adverse visual impacts through methods such as enhanced plantings, texture, color coating for structures, and contour grading

Affected Environment

The following information in this section was derived from the Caltrans VIA prepared in August of 2008 (Caltrans 2008). The regional landscape establishes the general visual environment in the project area. However, the specific visual environment upon which the assessment is focused was determined by defining landscape units and the project viewsheds. Most of the land adjacent to the project area is highly developed and mostly commercial, residential, or industrial. The I-405 freeway is adjacent to the Hollywood Park Casino, the Forum, and the Los Angeles International Airport (LAX). These facilities are in clear view from the project area. The freeway landscape within this corridor consists of oleander, iceplant, ivy, grasses, Mexican fan palms, tall pines, Eucalyptus, and other evergreen trees.

Residential Area. A residential area east of Interstate 405 is present within the City of Inglewood within the Project Study Area. The area consists of one-story, single-family residential homes, two-story, single-family residential homes, and two-story, multi-family residential complexes. Dominant visual resources in this portion of the project study area include the homes and yards themselves, streets and sidewalks, and the retaining and sound walls along I-405. The viewshed within the residential area is limited, with views of mass plantings of trees and shrubs and metal fences.

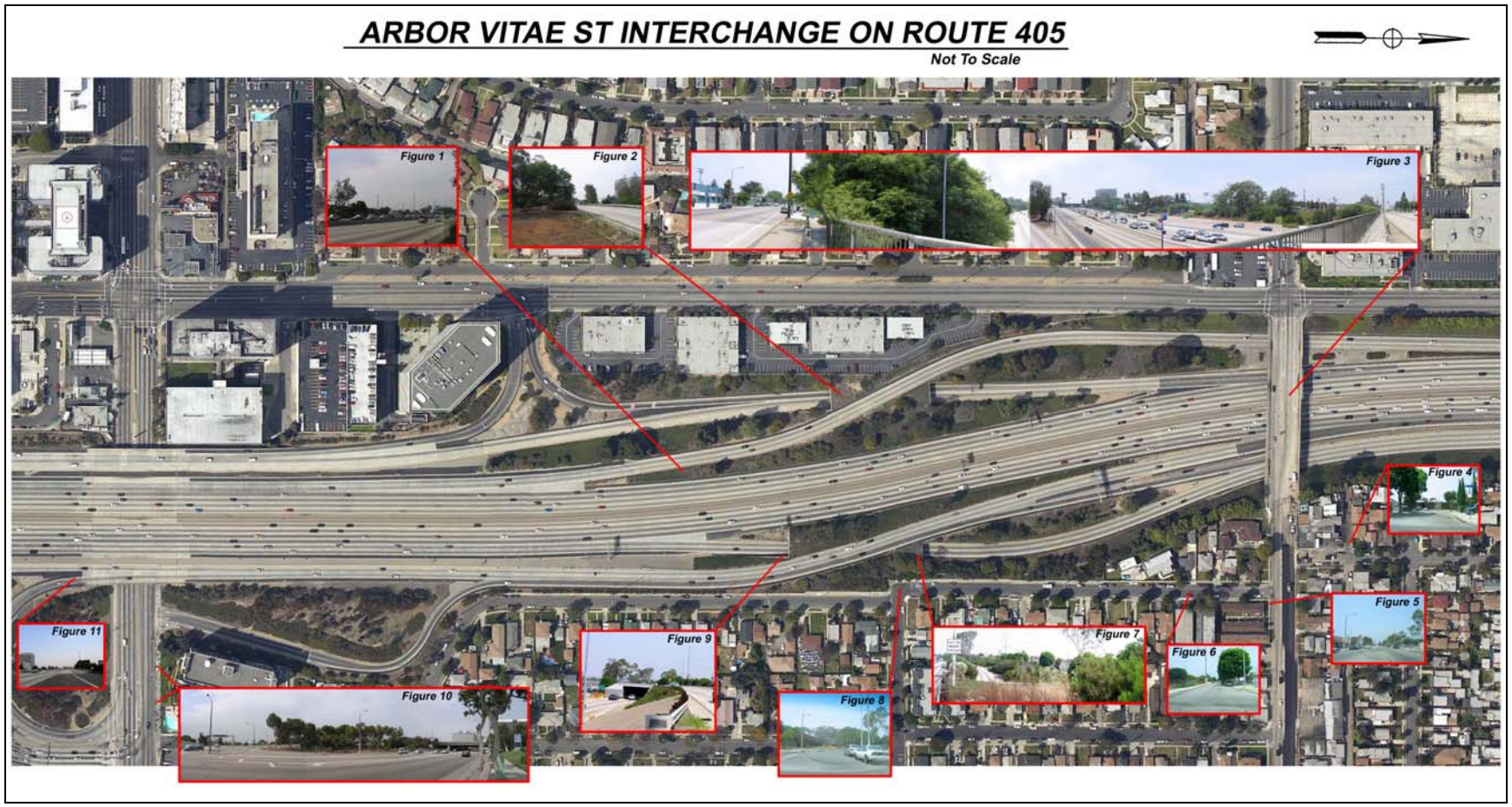
Viewer Response. Viewer Response is comprised of two elements: viewer sensitivity and viewer exposure. These elements combine to form a method of predicting how the public might react to changes brought about by the I-405 Arbor Vitae New South Half Interchange Project. Viewer sensitivity is defined as the viewers' concern for scenic quality and response to change in visual resources that make up a view. Viewer exposure is typically assessed by measuring the number of viewers exposed to the resource change, type of viewer activity, duration of their view, speed at which the viewer moves, and the position of the viewer.

The Visual Impact Assessment identifies the resident viewer group as most sensitive to any impacts or disturbance to existing visual resources. The resident viewer group includes people who may have views of the project from their homes or place of business/employment. Residents have a high level of exposure to the visual environment and high visual awareness. The group tends to be stationary and have more time to take in the surrounding views. In addition, they become more familiar with the local environment than other groups and typically take more ownership in it. This group is considered to be highly sensitive to visual changes, particularly if important visual resources are lost as a result of relocation or acquisition of property in the project area.

Potential Impacts

Because it is not feasible to analyze all the views in which the proposed project would be seen, the Visual Impact Assessment (VIA) focuses on a select number of key viewpoints where potential for impacts to the existing visual environment is most clear. The following area map shows four (4) selected viewpoints of study, followed by representations of the existing visual environments and post-construction visual simulations with the proposed structures in place.

Figure 2-09. Eleven Selected Viewpoints of Study Arbor Vitae Street Interchange on I-405



VIEWPOINT 1

Southbound View of Interstate 405 from Manchester Boulevard On-ramp 1
See Viewpoint 1 of Figure 2-09 Eleven Selected Viewpoints of Study Arbor Vitae Street Interchange on Interstate 405 on page 61.

Open skies and vehicles dominate the southbound view of I-405 from Manchester Boulevard On-ramp. Trees will be cut down for the construction of the new sound wall on the west side of the freeway. An aesthetic treatment to the wall and the vine planting and irrigation will be made possible by setting the wall back away from the existing lower barrier wall that extends to the limit of Caltrans right-of-way. Views for the southbound 405 travelers will be not impacted substantially due to the short viewing time of the new bridge. The new merge lane does not cause visual impact because of the existing 6 drive lanes in this location.

Southbound View of Interstate 405 from Industrial Park (9300 S La Cienega Blvd.) 2
See Viewpoint 2 of Figure 2-09 Eleven Selected Viewpoints of Study Arbor Vitae Street Interchange on Interstate 405 on page 61.

Views for the southbound 405 travelers will be impacted due to the short viewing time of the new bridge. The new merge lane does not cause a significant visual impact because of the existing 6 drive lanes in this location.

Figure 2-10. Photo of Existing View 12 on West Side of I-405

The sound wall impacts View 12 of I-405 from the intersection of Arbor Vitae Street and La Cienega Boulevard for adjacent businesses and residences. No roadway signs will be blocked by the new sound wall on the west side of I-405. Landscaping along the highway has been eliminated from this viewpoint, as is evident in Figure 2-10 above.

Figure 2-11. Photo Simulation of New Sound Wall on West Side of I-405 (Landscaping Added) View 12

In this photo simulation based on View 12, an aesthetic treatment to the wall and the vine and palm tree planting and irrigation will be made possible by setting the wall back away from the existing lower barrier wall that extends to the limit of Caltrans right-of-way. These measures will soften the appearance of the wall and deter graffiti as seen in Figure 2-11 above. The homeowners and businesses are unable to view the existing freeway and the new south half interchange structure.

VIEWPOINT 2

Figure 2-12. Photo Simulation of Elevated Arbor Vitae Street on-ramp to Southbound I-405

View from Arbor Vitae Street facing South

Views for the southbound 405 travelers will be impacted due to the short viewing time of the new bridge. The new merge lane does not cause a significant visual impact because of the existing 6 drive lanes in this location.

Southbound View of Interstate 405 from Arbor Vitae Overcrossing 3
See Viewpoint 3 of Figure 2-09 Eleven Selected Viewpoints of Study Arbor Vitae Street Interchange on Interstate 405 on page 61.

Views for the southbound 405 travelers will not be impacted substantially due to the short viewing time of the new bridge. The new merge lane does not cause a significant visual impact because of the existing 6 drive lanes in this location. Viewpoints for the northbound I-405 travelers will not be substantially impacted by an added bridge structure because an overcrossing already exists in the area. The viewpoint will be impacted only marginally by the replacement of the Northbound Manchester Avenue tunnel or the construction of a new bridge.

VIEWPOINT 3

Figure 2-13. Photo View 13 of Widened Arbor Vitae Street Overcrossing

The widened Arbor Vitae Street Overcrossing will not have a significant visual impact on travelers along the Arbor Vitae Street, La Cienega Boulevard, and Ash Avenue. It is a built-out area where no park or natural areas will be visually impacted. Treatments to make the color of the overcrossing blend in with the current surroundings will be done upon the completion of its construction. Roadway signs and sightlines will not be affected by the widened Arbor Vitae Street Overcrossing of this proposed project.

VIEWPOINT 4

Figure 2-14. Photo Simulation of New Sound Wall on East Side of I-405 (No Landscaping Added)

In these simulations, the new sound wall on the east side of Interstate 405 in Inglewood next to Ash Street and Golden Gate Avenue has been added to the existing key viewpoint (facing southwest from Golden Gate Avenue). Landscaping along the highway has been eliminated from this viewpoint, as is evident in Figure 2-14 above.

Figure 2-15. Photo Simulation of New Sound Wall on East Side of I-405 (Landscaping Added)

In this simulation, an aesthetic treatment to the wall and the palm tree planting and irrigation will be made possible by setting the wall back away from the existing lower barrier wall that extends to the limit of Caltrans right-of-way. These measures will soften the appearance of the wall and deter graffiti as seen in Figure 2-15 above. Viewpoints for the existing homeowners and businesses adjacent to the freeway will not be impacted. Because of their location, the homeowners and businesses are unable to view the existing freeway and the new south half interchange structure.

View of Interstate 405 from intersection of Ash and Buckthorn Streets 4
See Viewpoint 4 of Figure 2-09 Eleven Selected Viewpoints of Study Arbor Vitae Street Interchange on Interstate 405 on page 61.

Because of an existing sound wall and mature trees, viewpoints for the existing homeowners and businesses adjacent to the freeway will not be impacted. Due to their location, the homeowners and businesses are unable to view the existing freeway and new structure.

View of Arbor Vitae Street Overcrossing from intersection of Arbor Vitae and Ash Streets 5
See Viewpoint 5 of Figure 2-09 Eleven Selected Viewpoints of Study Arbor Vitae Street Interchange on Interstate 405 on page 61.

The built urban environment along Arbor Vitae Street includes a wide arterial street and some trees. Again, viewpoints for the existing homeowners and businesses adjacent to the freeway will not be impacted. Due to their location, the homeowners and businesses are unable to view the existing freeway and new structure.

View of Arbor Vitae Street from Ash Street Facing North 6
See Viewpoint 6 of Figure 2-09 Eleven Selected Viewpoints of Study Arbor Vitae Street Interchange on Interstate 405 on page 61.

Within the built urban environment, Ash Street has some bushes and trees within this viewpoint. The homeowners and businesses are not able to view the existing freeway and new structure. The viewpoints for the existing homeowners and businesses adjacent to the freeway will not be impacted.

View of Interstate 405 from 95th Street and Ocean Gate Avenue Intersection 8
See Viewpoint 8 of Figure 2-09 Eleven Selected Viewpoints of Study Arbor Vitae Street Interchange on Interstate 405 on page 61.

This viewpoint from the residential neighborhood includes many trees as well as light poles and other built infrastructure. Again, viewpoints for the existing homeowners and businesses adjacent to the freeway will not be impacted. Because of their location, the homeowners and businesses are unable to view the existing freeway and the new south half interchange structure.

VIEWPOINT 5

View of Northbound 405 and Connectors from Manchester Boulevard Tunnel 7
See Viewpoint 7 of Figure 2-09 Eleven Selected Viewpoints of Study Arbor Vitae Street Interchange on Interstate 405 on page 61.

There is a lot of shrub and brush vegetation in this viewpoint. Viewpoints for the northbound I-405 travelers will not be substantially impacted by an added bridge structure because an overcrossing already exists in the area. The viewpoint will be impacted only marginally by the replacement of the Northbound Manchester Avenue tunnel or the construction of a new bridge.

View of Manchester Boulevard Tunnel from Manchester Boulevard off-ramp 9
See Viewpoint 9 of Figure 2-09 Eleven Selected Viewpoints of Study Arbor Vitae Street Interchange on Interstate 405 on page 61.

The viewpoint illustrates existing highway infrastructure with gravel and ground vegetation. Replacing the northbound Manchester Avenue tunnel or building a new bridge will not substantially impact the view of motorists traveling along I-405. Viewpoints for the northbound I-405 travelers will not be substantially impacted by an added bridge structure because an overcrossing already exists in the area.

Figure 2-16. Photo Simulation of Elevated Northbound I-405 off-ramp to Arbor Vitae Street

The sound wall impacts the limited view of I-405 from the intersection of Arbor Vitae Street and La Cienega Boulevard for adjacent businesses and residences. No roadway signs will be blocked by the new sound wall on the west side of I-405. Plants and shrubs have been added to this view to minimize the visual impact of the sound wall. This is made possible by setting the wall back away from the existing lower barrier wall that extends to the limit of Caltrans right-of-way. These measures will soften the appearance of the wall and deter graffiti as seen in Figure 2-15. The homeowners and businesses are unable to view the existing freeway and the new south half interchange structure.

VIEWPOINT 6

View of Century Boulevard east of Interstate 405 10
See Viewpoint 10 of Figure 2-09 Eleven Selected Viewpoints of Study Arbor Vitae Street Interchange on Interstate 405 on page 61.

The views of Century Boulevard westbound and eastbound travelers will not be substantially impacted by the widened Arbor Vitae Street on-ramp. The built-out area will not change substantially as a result of this project nor will the tree grove be impacted.

View of Northbound 405 from Century Boulevard on-ramp 11
See Viewpoint 11 of Figure 2-09 Eleven Selected Viewpoints of Study Arbor Vitae Street Interchange on Interstate 405 on page 61.

Again, the views of Century Boulevard westbound and eastbound travelers will not be substantially impacted by the widened Arbor Vitae Street on-ramp. Viewpoints for the northbound I-405 travelers will not be substantially impacted by an added bridge structure because the Arbor Vitae Street overcrossing already exists in the area.

Avoidance, Minimization, and/or Mitigation Measures

Visual mitigation for adverse project impacts addressed in the visual assessments and summarized in the VIA will consist of adherence to the following design requirements in cooperation with the District Landscape Architect. All visual mitigation will be designed and implemented with the concurrence of the District Landscape Architect. Caltrans and the FHWA mandate that a qualitative/aesthetic approach should be taken to mitigate for visual quality loss in the project area. The following measures have been specified to minimize impacts:

- Landscape to screen the existing structures and provide landscape enhancement.
- Add structural aesthetics to the new connector and retaining wall.
- Plant additional trees where feasible to provide screening for the adjacent residents.
- Plant vines along retaining wall where applicable to visually soften these structures.
- Identify key views for visual assessment
- Preserve as much as possible existing landscape within the state right of way.
- Provide freeway landscaping that is consistent with local policies.
- Use highway planting that is appropriately scaled and oriented to the freeway viewer.
- Select highway planting based on maximum benefit for the long-term costs involved. Plant materials that can withstand the difficult roadside conditions and survive with limited irrigation and minimal maintenance should be included. Invasive species shall not be used.
- Where a sound wall is proposed adjacent to South Ocean Gate Avenue and Ash Avenue, not only provide aesthetic treatment to the wall, but also set back wall away from the right-of-way to allow vine planting and irrigation to be placed as to soften the appearance of the wall and deter graffiti.

2.1.8 CULTURAL RESOURCES

Regulatory Setting. “Cultural Resources,” as used in this document, refers to all historical and archeological resources, regardless, of significance. Laws and regulations dealing with cultural resources include:

The National Historical Preservation Act (NHPA) of 1966, as amended, established national policy and procedures regarding historic properties, defined as district, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places. Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to allow the regulations issued by the Advisory Council on Historic Preservation (36 CFR 800). On January 1, 2004, a Section 106 Programmatic Agreement (PA) between the Advisory Council, FHWA, State Historic Preservation Officer (SHPO), and Caltrans went into effect for Caltrans as part of the Surface Transportation Project Delivery Pilot Program (23 CFR 773) (July 1, 2007).

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the “use” of land from historic properties.

Historical resources are considered under the California Environmental Quality Act (CEQA), as well as California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources. PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its rights-of-way. 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.

Affected Environment

Area of Potential Effects (APE). The Area of Potential Effects (APE) for the project that includes parcels that could be affected by right of way acquisition, audible effects, or visual effects resulting from implementation of the proposed project. The limits of the APE run roughly along Interstate 405 from the West Century Boulevard Undercrossing (Bridge No. 53-1522s) to the South Arbor Vitae Street Overcrossing (Bridge No. 53-1244) and 20 parcels fronting both Ash Avenue and Arbor Vitae Street east of Interstate 405 in Inglewood, California.

The results of an extensive records search of Caltrans District 7 files, the South Central Coastal Information Center at University of California, Los Angeles, the City of Inglewood Building Records and Planning Files and other reference sources has revealed that there are no recorded archaeological resources within the Area of Potential Effect (APE). A field inspection was conducted to confirm this finding. Based on this, no archeological impacts are anticipated, and no further archeological investigations are warranted at this time. An archeological survey was completed on July 23, 1999, and confirmed by more recent studies.

Historic Properties. A Historic Property Survey Report (HPSR) for the I-405/Arbor Vitae Street Interchange Project was completed on October 6, 1999. On December 1, 1999, the State Historic Preservation Officer (SHPO) concurred with the findings in the HPSR. This concurrence is cited in this document's EA/IS References Section. No historic properties eligible for the National Register of Historic Places (NRHP) were identified in the Area of Potential Effect (APE).

Finding of Effect. A Finding of Effect Report (FOE) for the Interstate 405 at Arbor Vitae Street New South Half Interchange Project determined that the project will have a finding of "No Historic Properties Effected" pursuant to 23 U.S.C. 327, as provided in the Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and Caltrans regarding compliance with Section 106 of the National Historic Preservation Act, as it pertains to the administration of the Federal Aid Highway Program in California, Stipulation X. C. No consultation will be conducted with SHPO regarding the resolution of adverse effects, pursuant to Section 106 PA, Stipulation XI, 36 CFR 800.6(a), and 800.6(b)(1).

Impacts

Alternative 1 (No-Build Alternative): Alternative 1 would result in no construction of a New South Half Interchange at Arbor Vitae Street along Interstate 405. The Arbor Vitae Street Overcrossing would remain as it is. This alternative would have **a finding of no impact** on any historic property.

Aternative 2 (Build Alternative): A New South Half Interchange at Arbor Vitae Street with a new on-ramp from Arbor Vitae Street to southbound I-405 will be constructed as well as a new off-ramp to Arbor Vitae Street from northbound I-405. The Arbor Vitae Street Bridge would be widened from 6 to 8 lanes. An Arbor Vitae Street off-ramp from northbound I-405 and a southbound Arbor Vitae Street on-ramp to I-405 will be constructed for the new south half interchange. To provide room for the new Arbor Vitae Street off-ramp, the Century Boulevard crossover lane to northbound I-405 will be reconstructed. Caltrans has determined that the undertaking will have **a finding of no impact** on any historic property.

Avoidance, Minimization and/or Mitigation Measures

Neither alternative (No-Build Alternative 1 and the Arbor Vitae New South Half Interchange Alternative 2) will result in an Adverse Effect that will require minimization or mitigation measures. Thus, no proposal for such measures nor consultation with the State Historic Preservation Officer will be necessary for this project.

2.2 PHYSICAL ENVIRONMENT

2.2.1 HYDROLOGY AND FLOODPLAIN

Regulatory Setting. Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration requirements for compliance are outlined in 23 CFR 650 Subpart A.

In order to comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments
- Risks of the action
- Impacts on natural and beneficial floodplain values
- Support of incompatible floodplain development
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values impacted by the project.

The base floodplain is defined as "the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year." An encroachment is defined as "an action within the limits of the base floodplain."

Hydraulic information for a project is provided in the Location Hydraulic Study, Summary Floodplain Encroachment Report and/or a Floodplain Evaluation Report. A Location Hydraulic Study (LHS) is prepared by a registered engineer who has expertise in hydraulics. If, based on the results of the LHS, either: 1) a significant encroachment on a floodplain, 2) an inconsistency with existing watershed and floodplain management programs or 3) uncertainty exists as to what impacts will occur, then a Floodplain Evaluation Report must be prepared. If no encroachment or impacts to the floodplain will occur, then a Summary Floodplain Encroachment Report will be prepared. For this project, a Summary Floodplain Encroachment Report was prepared since the one (1) proposed project build-alternative requires construction of a new south half interchange consisting of a northbound on-ramp and southbound off-ramp structure. The area of the project (FEMA boundary map of unmapped area 065036, panel # 0910,and suffix #9) has been categorized as low to moderate risk to the flood hazard. The proposed project's Location Hydraulics Study Floodplain Evaluation Report was completed on September 17, 1998.

Affected Environment

Located in Los Angeles County within the City of Inglewood, the Arbor Vitae New South Half Interchange Project does not include any water bodies, wetlands or sensitive natural areas within its project limits. The Pacific Ocean is nearly four miles to the west and thirteen miles to the south. The Los Angeles River is over seven miles to the East. Caltrans prepared a Location Hydraulic Study (LHS) for this project as required under Federal Highway Administration requirements as outlined in 23 CFR 650 Subpart A. The Location Hydraulic Study (LHS) was completed on September 15, 1998. The ensuing discussion is based on those technical studies as prepared by a registered engineer with hydraulics expertise.

The Federal Flood Insurance Rate Maps within the project area are within Los Angeles County (Community Panel No. 060137 0090C & 065043 0920B). These portions of the proposed project are located inside of the 100-year flood zone. Therefore a Location Hydraulics Study was completed and is incorporated by reference. There is no watershed within the Project Limits. No 100-year flood zone backwater damages will occur to residences, other buildings, and crops. The project area has been categorized as low to moderate risk in terms of flood hazards.

Potential Impacts

The project's Location Hydraulics Study revealed that the proposed project will not introduce incompatible floodplain development nor will there be any significant impacts on natural and beneficial floodplain uses and values. Floodplain risks associated with implementation of this project are not significant. Therefore, a Summary Floodplain Encroachment Report was prepared.

Impacts to the Floodplain from Alternative 2 (Build). The hydraulics/floodplain risks associated with the proposed project are low. No watershed exists within the project limits and the I-405/Arbor Vitae Street New South Half Interchange Project does not contain a longitudinal encroachment or a significant encroachment of any kind.

An increase in the base floodplain elevation (BFE) is not a proposed component of this project. Furthermore, a "significant encroachment" as defined at 23 CFR 650.105 is a highway encroachment and any direct support of likely base floodplain development that would involve one or more of the following construction or flood related impacts:

- A significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route
- A significant risk (to life or property), or
- A significant adverse impact on natural and beneficial floodplain values

The purpose of this EA/IS, as well as its component Floodplain Evaluation Report and Hydraulic Studies, is to identify the associated risks introduced by the proposed project, as well as their level of significance.

The one (1) proposed project build alternative, Alternative 2, calls for construction of a new Arbor Vitae Street New South Half Interchange from Arbor Vitae Street to Century Boulevard, in the City of Inglewood, Los Angeles County. Alternative 1 would not encroach substantially into a floodplain nor support likely floodplain development.

No impacts or encroachments to the Floodplain, its beneficial values, nor additional risks related to hydrology will result from the No-Build Alternative (1).

Other impacts. In addition, Alternatives 1 and 2 of the proposed project are not going to adversely impact beneficial floodplain values.

Coordination regarding impacts to the Floodplain and Hydrology. The hydrology/floodplain risk of the I-405/Arbor Vitae Street New South Half Interchange Project is low. Also, the project does not contain a significant encroachment onto the floodplain or impact natural and beneficial floodplain values. Coordination on hydraulics/floodplain issues are not anticipated to be conducted with either the U. S. Army Corps of Engineers or the Federal Emergency Management Agency.

Coordination, consultation, and presentation of the aforementioned Floodplain Evaluation Report will be presented to the Federal Emergency Management Agency during circulation of the Draft EA/IS as sometimes an encroachment on a regulatory floodway, or an increase in the base flood elevation, or any subsequent actions may necessitate the need for a floodplain map revision.

Lastly, Executive Order 11988 requires that when a floodplain risk assessment, such as a Summary Floodplain Encroachment Report, is prepared, the public must be given the opportunity for early review and comment. It also requires that the risk assessment be filed with the State Clearinghouse. A reference to encroachments on the base floodplain must be included in public notices and any encroachments must be identified at public hearings. Caltrans will execute this procedure jointly in the public notices and public hearings for this draft NEPA/CEQA document.

Significance of Encroachment. A "significant encroachment" on a floodplain is defined at 23 CFR 650.105 as a highway encroachment and any direct support of likely base floodplain development that would involve one or more of the following construction or flood related impacts:

- a significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route
- a significant risk (to life or property), or
- a significant or adverse impact on natural and beneficial floodplain values

The purpose of this EA/IS, as well as its component Floodplain Evaluation Report and Hydraulic Studies is to identify the associated risks introduced by the proposed project, as well as their level of significance. There is no potential for significant interruption or termination of transportation facilities that are needed for emergency vehicles or community evacuation routes. The LHS indicates an estimated duration of traffic interruption for a 100-year flood at zero (0) hours at a "moderate" risk level. The LHS also indicates that there is a "low" risk to life and/or property as a result of construction and encroachment on the floodplain, with estimated roadway and property value damage costs of zero (0) dollars. Lastly, the study concludes that there is no potential for significant or adverse impacts to residences, other buildings, crops, and natural and beneficial floodplain values.

Avoidance, Minimization and/or Mitigation Measures

Caltrans has made one (1) mitigation proposal with the goal of eliminating the aforementioned risks:

- Encroachment that is longitudinal and/or significant.
- Incompatible floodplain development
- Impacts on incompatible floodplain development

Mitigation measures. Routine construction procedures for special mitigation measures to minimize floodplain impacts and to restore and preserve the natural and beneficial floodplain values will be a part of the final design to the extent practicable.

Conclusion. The purpose of this discussion is to note that the I-405/Arbor Vitae New South Half Interchange Project will not support incompatible floodplain development nor will there be any significant impacts on natural and beneficial floodplain uses and values. Again, floodplain risks associated with this project are not significant. The project will not lead to a significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route. Construction of the new south half interchange will not put property or life at risk. The project is under Project Review (PR) phase, no preferred alternative has been selected, and the project data presented in this report are just preliminary estimates.

Floodplain Only Practicable Alternative Finding

Although this action is not applicable to this project, when the Preferred Alternative causes an encroachment in a floodplain, a finding must be made that demonstrates that the Preferred Alternative is the only practicable alternative as required by 23 CFR 650, Subpart A. Table 36 on the following page details the analysis and determination in finding the Preferred Alternative as the Only Practicable Alternative.

Table 36. Floodplain Only Practicable Alternative Finding

Balancing Factors	No Build Alternative 1	Alternative 2	Alternative with Advantage
Encroachment Upon the Floodplain and Flood Control Basin	ZERO Enchroachment	no significant enchroachment upon floodplain and flood control basin	No Build Alternative 1
Project Purpose and Need	FAILS to meet the Project's Purpose and Need	BEST meets the Project Purpose and Need	Alternative 2
Biological Impacts	ZERO Enchroachment	no significant biological impacts	No Build Alternative 1
Encroachment Upon Wetlands	ZERO Enchroachment	ZERO Enchroachment	Neither
Least Impact to Section 4(f) Resources	ZERO Impacts to Section 4(f) Resources	ZERO Impacts to Section 4(f) Resources	Neither
Project Impact Footprint	ZERO Impact Footprint	37.2 Acres	No Build Alternative 1
Cost (Socioeconomic Considerations)	Not a factor: $0	$10.8 million for Right of Way/Relocation Costs, $278 million total cost	No Build Alternative 1

2.2.2 WATER QUALITY AND STORM WATER RUNOFF

Regulatory Setting. Section 401 of the Clean Water Act requires water quality certification from the State Water Resource Control Board (SWRCB) or a Regional Water Quality Control Board (RWQCB) when the project requires a Federal permit. Typically this means a Clean Water Act Section 404 permit to discharge dredge or fill into a water of the United States, or a permit from the Coast Guard to construct a bridge or causeway over a navigable water of the United States under the Rivers and Harbors Act.

Along with Clean Water Act Section 401, Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) for the discharge of any pollutant into waters of the United States. The federal Environmental Protection Agency has delegated administration of the NPDES program to the SWRCB and the nine RWQCBs. To ensure compliance with Section 402, the SWRCB has developed and issued the Department an NPDES Statewide Storm Water Permit to regulate storm water and non-storm water discharges from the Department's right-of-way, properties and facilities. This same permit also allows storm water and non-storm water discharges into waters of the State pursuant to the Porter-Cologne Water Quality Act.

Storm water discharges from the Caltrans' construction activities disturbing one acre or more of soil are permitted under the Caltrans' Statewide Storm Water NPDES permit. These discharges must also comply with the substantive provisions of the SWRCB's Statewide General Construction Permit. Non-Departmental construction projects (encroachments) are permitted and regulated by the SWRCB's Statewide General Construction Permit. All construction projects exceeding one acre or more of disturbed soil require a Storm Water Pollution Prevention Plan (SWPPP) to be prepared and implemented during construction. The SWPPP, which identifies construction activities that may cause discharges of pollutants or waste into waters of the United States or waters of the State, as well as measures to control these pollutants, is prepared by the construction contractor and is subject to Department review and approval.

Finally, the SWRCB and the RWQCBs have jurisdiction to enforce the Porter-Cologne Act to protect groundwater quality. Groundwater is not regulated by Federal law, but is regulated under

the state's Porter-Cologne Act. Some projects may involve placement or replacement of on-site treatment systems (OWTS) such as leach fields or septic systems or propose implementation of infiltration or detention treatment systems which may pose a threat to groundwater quality. Currently the OWTS program is without SWRCB regulation but you should be aware of threats to groundwater quality on the project site and evaluate and address accordingly in the environmental document. Design standards for installation and operation of infiltration and detention treatment systems should protect groundwater quality and those protections should also be addressed in the environmental document.

Affected Environment

The Arbor Vitae New South Half Interchange Project is located within the Ballona Creek Watershed and Dominguez Channel in the northwestern corner of the Los Angeles Basin. Robert Wu concurred with this finding. The Ballona Creek Watershed is a 130-square mile watershed that encompasses most of the City of Los Angeles west of downtown, the cities of Beverly Hills, Culver City, West Hollywood and portions of the cities of Inglewood and Santa Monica. The Pacific Ocean is nearly four miles to the west and thirteen miles to the south. The Los Angeles River is over seven miles to the East.

The Ballona Creek Watershed and Dominguez Channel Watershed are highly urbanized with commercial, residential, or industrial land uses. The project is located in the Santa Monica Bay Hydrologic Unit and within the Wilshire Hydrologic sub-area. Within the Dominguez Channel Watershed, the project is located in the Dominguez Channel Hydrologic Unit and with unidentified hydrologic sub-area.

Potential Impacts

The water body quality and storm water runoff risks associated with the proposed project are low. Two water bodies exist within the project limits and the I-405/Arbor Vitae Street New South Half Interchange Project does contain receiving water. However, the proposed project's disturbed soil area is larger than 1 acre, and therefore, will require a SWPPP pursuant to the Clean Water Act (Section 402).

Pursuant to the Clean Water Act (Sections 401 and 404), and potentially at the State level pursuant to Fish and Game Code 1602, Caltrans may need to obtain a Water Quality Certification from the Regional Water Quality Control Board, an Individual or Nationwide Permit from the U.S. Army Corps of Engineers, and a Streambed Alteration Agreement from the California Department of Fish and Game, respectively. This shall occur during the next phase of the project: the Project Specifications and Estimates (PS&E) phase. This NEPA/CEQA document shall be submitted during the application process.

The increase in the number of impervious areas nor greater downstream effects due to increase in water flow due to this project will not be increased substantially. There could be an unsubstantial effect on water quality.

Avoidance, Minimization and/or Mitigation Measures

Pursuant to the Clean Water Act (Section 402), Caltrans has obtained from the SWRCB a NPDES permit (No. CAS 000003) that regulates storm water discharges from Caltrans facilities. This project must comply with NPDES Construction General Permit No. CAS000002 if disturbed soil is greater than (1) acre, in which the project fulfills. The permit requires Caltrans to maintain and implement an effective Storm Water Management Plan (SWMP) that identifies and describes the Best Management Practices (BMPs) used to reduce and eliminate the storm water runoff discharge of pollutants to waters of drainage conveyances and water bodies to improve water quality. The SWMP is the framework for developing and implementing guidance to meet permit requirements for Caltrans' storm water discharges. Disturbed areas will be minimized.

Total Maximum Daily Load (TMDL) Requirements. A TMDL or Total Maximum Daily Load is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. The California Regional Water Quality Control Board devises water quality standards. They identify the uses for each waterbody, for example, drinking water supply, contact recreation (swimming), and aquatic life support (fishing), and the scientific criteria to support that use. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the waterbody can be used for the purposes the State has designated. The calculation must also include a margin of safety to ensure that the waterbody can be used for the purposes the State has designated. The calculation must also account for seasonal variation in water quality. The Clean Water Act, Section 303, establishes the water quality standards and TMDL programs.

Project Engineers shall consider treatment controls for the project and consult with the District NPDES Storm Water Coordinator.

Best Management Practices (BMPs). With respect to storm water quality, avoidance and minimization are accomplished by implementation of approved BMPs, which are generally broken down into four categories: Pollution Prevention, Treatment, Construction, and Maintenance BMPs. Certain projects may require installation and maintenance of permanent controls to treat storm water. Selection and design of permanent project BMPs is primarily refined in the next phase of the project: the Project Specifications and Estimates (PS&E) phase.

During construction activities, Caltrans has a comprehensive program for preventing water pollution via the preparation and implementation of the aforementioned SWPPP and WPCP. Caltrans has also developed and obtained the SWRCB approval of numerous BMPs for preventing water pollution during construction. Caltrans construction BMPs, SWPPP, and WPCP also incorporate the requirements of the SWRCB NPDES permit. This is all implemented jointly by Caltrans and the coordinator hired to construct the project prior to construction.

The following BMPs have been considered for use on this project, but are subject to change and revision.

Treatment BMPs

- Biofiltration Strips and Swales B-5
- Infiltration Devices B-11
- Detention Devices B-29
- Gross Solids Removal Devices
- Media Filters B-53
- Multi-Chamber Treatment Train (MCTT) B-65
- Wet Basin B-71

Construction Site BMPs

Soil Stabilization BMPs C-5

- Geotextiles, Mats/Plastic Covers and Erosion Control Blankets (SS-7) C-12

Sediment Control Practices C-18

- Silt Fence (SC-1) C-18
- Fiber Rolls (SC-5) C-19
- Gravel Bag Berm (SC-6) C-20
- Street Sweeping and Vacuuming (SC-7) C-20
- Sand Bag Barrier (SC-8) C-20
- Storm Drain Inlet Protection (SC-10) C-21

Tracking Control Practices C-21
- Stabilized Construction Entrance (TC-1) C-21
- Stabilized Construction Roadway (TC-2) C-21

Waste Management and Material Pollution Control C-25
- Stockpile Management (WM-3) C-26
- Concrete Waste Management (WM-8) C-27

Other BMP Measures
- Collect concentrated flows in stabilized drains, channels, etc.
- Utilize dikes, curbs, gutters, etc. for concentrated flow conveyance
- Utilize peak flow attenuation devices, if applicable
- Construct new drainage facilities, as applicable
- Utilize channel erosion control measures, linings, as applicable

2.2.3 GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY

Regulatory Setting. For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act.

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Department projects. The current policy is to use the anticipated Maximum Credible Earthquake (MCE), from young faults in and near California. The MCE is defined as the largest earthquake that can be expected to occur on a fault over a particular period of time.

A Preliminary Geotechnical Report (PGR) has been prepared by Caltrans for the proposed build alternative, which includes information in regard to site reconnaissance, a literature search, and a review of the Log of Test Boring (LOTB), based on typical cross-sections and preliminary layouts as provided by the district. The following information has been extracted from the PGR completed July 1997 and the September 2, 2008 Memorandum Regarding Seismicity from Gustavo Ortega, Branch Chief of Special Geological Studies, Office of Geotechnical Design South.

Affected Environment

Geology. Based on the Geologic Map of California, Division of Mines and Geology (State of California 1997), the proposed site mainly underlain by quaternary alluvial sediment. The deposits consist of interbeded slightly compact to compact sandy silt, silty sand, and silt and sand. A bed of sand about 10 feet thick was encountered approximately below elevation 68 feet. Structurally, the site is located just south of the Baldwin Hills which are described as a gently arched dome, slightly elongated in a northwesterly direction. The rocks and sediments that make up the terrain of the Baldwin Hills are very young.

According to the previous LOTB performed in the past fifty years, ground water fluctuates between the approximate elevations of 53 feet and 61 feet, which is approximately 42-50 feet deep below the ground surface. Ground water at the site was encountered at a depth of 42 feet, elevation of 53.3 feet during a 1959 geotechnical investigation. No surface water was observed in the area, but some perched water may exist temporarily due to frequent surface run-off. The construction of this project will not have an effect on ground water.

Topography. As said above, the project study area is formed by quaternary alluvial sediment and terrace deposits and is generally flat. According to our topographic layout plan, ground surface

elevation varies from approximately 53 feet to approximately 68 feet. There are no known natural resources that will be affected by this projected.

Seismicity. Maximum Credible Earthquake (MCE) is typically defined as the maximum earthquake predicted to affect a given location based on the known lengths of the active faults in the vicinity. Based on several memorandums prepared by Caltrans Geotechnical Services, and Caltrans' 2007 draft Los Angeles Area Seismic Hazard Map, the Maximum Credible Earthquake (MCE) along the Newport-Inglewood Fault System, located approximately 0.8 miles northeast of the project, is 7.0 Magnitude (M_w).

Also, using the 2007 draft Los Angeles Area Seismic Hazard Map, the Maximum Credible Earthquake (MCE) along the Charnock Fault, located approximately 0.5 miles southwest of the project site, is 6.5 M_w.

Liquefaction. Liquefaction has not been documented within the limits of this project during the last two major earthquakes in Southern California (1971 San Fernando – M_M = 6.62 and the 1994 Northridge – M_M = 6.7). In addition, based on a regional study conducted by the U.S. Geological Survey (1985), the relative liquefaction susceptibility along this project is considered to be very low.

Potential Impacts

Potential for Impacts Related to project's susceptibility to erosion and geologic hazards such as earthquakes and liquefaction. Based on several memorandums prepared by Caltrans Geotechnical Services, and Caltrans' 2007 draft Los Angeles Area Seismic Hazard Map, the Maximum Credible Earthquake (MCE) along the Newport-Inglewood Fault System is 7.0 and along the Charnock Fault is 6.5. There will be an insubstantial increase in the existing rate of soil erosion as a result of this project due to grading and after the new fill slopes have been filled or hydroseeded. The increase in the number of impervious areas nor greater downstream effects due to increase in water flow due to this project will not be increased substantially.

Potential for Exposure of Workers to Hazards During Construction. There are currently no special considerations of provisions recommended as a result of this project and geologic conditions in the area. Workers, nonetheless, are subject to implementation and practice of general safety precautions within construction zones.

Potential for Impacts to Natural Geologic Landmarks and Landforms. As part of the scoping and environmental analysis conducted for the project, potential impacts to natural geologic landmarks and landforms were considered, but no adverse impacts were identified. Consequently, there is no further discussion regarding these issues in this section.

Avoidance, Minimization and/or Mitigation Measures

Impacts of a geotechnical nature are negligible and no mitigation measures other than standard engineering design and practices are recommended. No significant settlement is expected to occur in the proposed fill foundations for the realigned ramps. No unusual treatment or special construction methods will be required. There are no known natural resources that will be affected by this projected. Preservation of existing vegetation (reduce clearing and grubbing, minimize disturbed areas to the extent possible) will be conducted. If applicable to this project, flatter slopes, slope rounding, benches, and terraces for slopes and hard surfaces along the ground will be utilized. Channel erosion control measures, paved/lined drainage devices and facilities, and vegetated surfaces and other planting strategies will be considered.

2.2.4 PALEONTOLOGY

Regulatory Setting. Paleontology is the study of life in past geologic time based on fossil plants and animals. A number of federal statutes specifically address paleontological resources, their treatments, and funding for mitigation as part of federally authorized or funded projects (e.g. Antiquities Act of 1906 [16 USC 431-433], Federal-Aid Highway Act of 1935 [20 USC 78]). Under California law, paleontological resources are protected by the California Environmental Quality Act, the California Administrative Code, Title 14, Section 4306 et seq., and Public Resources Code Section 5097.5.

Affected Environment

Caltrans Division of Environmental Planning, District 7, Paleontological Coordinator, reviewed supporting documentation about this project to determine if it required additional analysis and documentation/studies during the Project Approval/Environmental Document Phase. The Paleontological Coordinator also initiated consultation with the former Associate Environmental Planner of this project; he noted that paleontology was not an issue on this project. The determination was based on the PEAR that was performed during the initial stages of this project's development. Additionally, the scope of work has not changed dramatically. Therefore, a new paleontological investigation will not be necessary at this time.
Paleontological resources are not anticipated to be encountered in the project area. The Area of Potential Affect does not contain a Section 4(f) resource, a National Landmark, lands administered by the Bureau of Land Management, National Park Service, Army Corps of Engineers, or Department of Parks and Recreation resources. However, if during project construction, paleontological resources are encountered, work in the affected area shall immediately halt until a qualified paleontologist is notified and examines the find. Construction may only resume in the affected area once a paleontologist has cleared it. The District 7 Paleontological Coordinator needs to be notified of any scope of work changes so that the determination of no issue with paleontology can be revisited.

In addition, a Preliminary Geotechnical Report (PGR) has been prepared by Caltrans for the proposed build alternative, which includes information in regard to site reconnaissance, and a literature search. The following information has been extracted from the PGR completed July 1997 and the September 2, 2008 Memorandum Regarding Seismicity from Gustavo Ortega, Branch Chief of Special Geological Studies, Office of Geotechnical Design South. The proposed site is mainly underlain by quaternary alluvial sediment. This sediment is not of concern for this project.

Potential Impacts

As stated previously, paleontological resources are not anticipated to be encountered in the project area. No sensitive formations, such as the Monterey Formation, are unlikely to be encountered during construction.

Avoidance, Mitigation, and/or Minimization Measures

Because it is unlikely that significant paleontological resources will be encountered during construction of the project, no formal mitigation and monitoring plan is necessary. However, if paleontological resources are discovered during construction, the paleontologist (or paleontological monitor) will recover them. Construction work in these areas will be halted or diverted to allow recovery of fossil remains in a timely manner. Fossil remains collected during the monitoring and salvage portion of the mtitigation program will be cleaned, prepared, sorted, and cataloged. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, will then be deposited in a scientific institution with paleontological collections.

2.2.5 HAZARDOUS WASTE/MATERIALS

Regulatory Setting

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health and land use.

The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for "cradle to grave" regulation of hazardous wastes. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Water Drinking Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976, and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning.

Worker health and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction.

Affected Environment

An Initial Site Assessment (ISA) was conducted (Caltrans Office of Environmental Engineering and Corridor Studies, October 1, 2008) for the build alternative to identify, to the extent practical, contaminated, and potentially contaminated areas and hazardous waste problems within and adjacent to Caltrans right of way and proposed project area. Sources of hazardous waste include the presence of active gas stations or shut down gas stations, automotive repair businesses, dry cleaning businesses, any industrial activity, car recyclers, landfills (permitted or unpermitted), and naturally occurring asbestos, which can be found in certain types of geologic formations. The ISA included a field reconnaissance of the subject area and adjoining properties, and a review of historical records, maps, aerial photographs, and regulatory databases.

The Office of Environmental Engineering and Corridor Studies' Hazardous Waste Branch, South Region performed an environmental records search for properties located within the project study area (a search radius of ¼ mile on either side of the project site) which included the following federal and state databases:

State Databases

Cal Sites Database – Maintained by the State of California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), this database contains information on Annual Workplan Properties (AWP), and both known and potentially contaminated properties. All of these properties have been classified, based on available information, as needed No Further Action by the DTSC.

LUST Database (Leaking Underground Storage Tank) – Database of reported leaking underground storage tank facilities as maintained by State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB).

Spills-1990 Report – The California RWQCB report of sites that have records of spills, leaks, investigation, and cleanups.

SWLFs Database (Solid Waste Landfill) – This database consists of open and closed solid waste disposal facilities and transfer stations. The data comes from the Integrated Waste Management Board's SWIS (Solid Waste Information System) database.

UST Database (Underground Storage Tank) – The UST Information System is maintained by the SWRCB (State Water Resources Control Board), which may include the owner and location of the USTs. This database may also include registered ASTs (Aboveground Storage Tanks).

Delineation of Study Area

The ISA addressed the right of way located along I-405 from roughly Arbor Vitae Street to Century Boulevard, and right of way east of I-405, mainly residential structures, both single-family homes and apartments, with some mixed neighborhood retail buildings. No evidence of releases or environmental concerns are noted in the ISA on any of these parcels.

Table 37. Description of Parcels of Study Identified in Hazardous Waste Lists

Site	Address	Distance from Project Study Area	Description	List(s) that Site Appears on
Bon-Air Freight Company	901 West Arbor Vitae Street Inglewood, CA 90301	1/8 mile to the west	A truck storage/cargo facility with one gasoline underground storage tank	Undergound Storage List (UST)
Hindry Press Inc.	327 South Glasgow Avenue Inglewood, CA 90301	1/8 mile to the west	Warehouse and printing press facility that could generate hazardous waste	Environmental Protection Agency Resource Conservation and Recovery Act (RCRA) List
Marlee Electronics Corporation	900 West Olive Avenue Inglewood, CA 90301	1/8 mile to the west	Electronics manufacturing, repair, and distribution facility that could generate hazardous waste	Environmental Protection Agency Resource Conservation and Recovery Act (RCRA) List
MS Body and Paint	319 South Glasgow Avenue Inglewood, CA 90301	1/8 mile to the west	Auto body and paint facility that could generate hazardous waste	Environmental Protection Agency Resource Conservation and Recovery Act (RCRA) List
D&K Drive In (Pullman Properties)	937 West Arbor Vitae Street Inglewood, CA 90301	1/8 mile to the west	Restaurant that could generate hazardous waste	Hazardous Waste and Substance Site List/Cortese List
Southern California Edison	8611 South La Cienega Boulevard Inglewood, CA 90301	1/12 mile to the west	Office/industrial facility that has a 5,000 gallon diesel underground storage tank that has leaked fuel.	Undergound Storage List (UST), Leaking Underground Storage (LUST) List

Groundwater Sampling. The Arbor Vitae New South Half Interchange Project does not include any water bodies, wetlands or sensitive natural areas within its project limits. Therefore, groundwater sampling and testing will not be performed during the Planning, Specifications, and Estimates (PS&E) Phase to determine the level of contaminants.

Potential Impacts

Aerially Deposited Lead (ADL). ADL may exist at the project location in unpaved areas within Caltrans right-of-way. Lead was sampled in shallow soils from the surface to three feet in depth during the *Site Investigation* in December 1998. The top 2 feet of soil in unpaved areas (up to 25 feet from edge of pavement) requiring excavation can be considered contaminated and may require disposal at a Class I facility. A Site Investigation (SI) will be required for this project during the Plans, Specifications, and Estimates (PS&E) phase to determine the levels and extent of contamination and provisions will be made for handling and disposal of the contaminated soils. The areas of primary concern are soils along routes with historically high vehicle emissions due to large traffic volumes, congestion, or stop and go situations. Most ADL due to vehicle emissions was deposited prior to 1986 when nearly all lead was removed from gasoline in California.

Historical environmental soil sampling data was available for review within in the *Site Investigation (SI) Report, Prepared by GEOCON, December 1998*. The historical use of leaded gasoline will result in the disturbance of soil contaminated with Aerially Deposited Lead (ADL) within the construction footprint of this project. Particulate emissions in engine exhaust contained lead from leaded gasoline. The lead was deposited adjacent to roadways and/or runoff to road embankments and along right-of-way or easement areas.

The Hazardous Waste Branch, South Region reviewed the project design plans and the primary relevant documents and databases to obtain an assessment of the potential hazardous waste concerns and the extent of contamination within the proposed project area. Based on the branch's findings, ADL is the hazardous waste of concern because of historical use of leaded gasoline.

Asbestos Containing Materials (ACM) and Lead Based Paint (LBP). ACM and LBP may be present at single-family or multi-family residences and commercial and industrial buildings. Prior to the demolition of any structures (that might be acquired), ACM and LBP surveys will be required. If ACMs and/or LBPs are/is detected in any of these structures, these materials must be removed and disposed of at an appropriate disposal facility by a licensed contractor prior to their demolition.

Asbestos Containing Materials (ACM) in Structures that Require Modification. A concern exists that ACM may be present in structures within the project study area. These structures include those that require modification, relocation, or any other work that impact existing structures. It is recommended that testing be completed during construction to determine the presence of ACM. Testing of expansion joints at every approach and departure slabs being replaced is recommended. If the presence of ACM is determined to be present during testing, the material will be disposed of at an appropriate disposal facility.

Thermoplastic/Paint Striping Containing Lead and Chromium. There is concern that yellow thermoplastic/pain striping that needs to be removed may contain lead and chromium at concentrations that are considered hazardous. If yellow thermoplastic/paint striping is removed by itself, the residue must be disposed of at a Class I Disposal Facility. In areas where the yellow traffic strip are being removed along with asphalt or concrete, the lead concentration may be diluted in the project so that disposal at a Class I facility may not be necessary. When the data about the length of yellow stripes and volume of asphalt to be removed becomes available to determine whether the waste can be relinquished to the contractor for possible recycling or need to be disposed of at a Class I Disposal Facility, the lead and chromium levels can be tested.

Potential for Detrimental Impacts During Construction Activities. The purpose of the ISA is to identify, to the extent feasible, hazardous and potential hazardous waste problems within and the next to the right-of-way, and proposed project area. Based on the results of historical research, review of environmental databases, and site reconnaissance, properties were

evaluated and classified as High, Moderate, or Low with regard to the potential for detrimental impacts during construction activities for this project.

> **High** – Property with known or probable contamination within the area of the project. An example of a property in this category would be a leaking underground storage tank (UST) site where Remediation had not been started or was not yet finished.
>
> **Moderate** – Property with potential or suspected contamination within the area of the `project. Examples of properties in this category would be leaking UST sites in final stages of remediation or post-remediation monitoring. A second example would be a property with known use and storage of hazardous materials which had received violation notices from an inspecting agency or where visual evidence of inadequate chemical and storage practices (such as significant staining) were observed but where no environmental assessments had occurred.
>
> **Low** – Property which uses or store hazardous materials but with no significant violations, known releases, of evidence of inadequate chemical handling practices. Example properties would be UST or dry cleaning facilities with no documented releases or where remediation or previous releases had been completed.

None of the parcels/properties evaluated are of High or Moderate risk. No properties within the footprint of the project pose any detrimental impacts during construction activities nor will any properties need to be acquired due to their High or Moderate risk for Caltrans right-of-way.

Avoidance, Minimization, and/or Mitigation Measures

If Alternative 2 (Build Alternative) is selected as the Preferred Alternative, a more focused and in-depth approach to assessing the detrimental impacts during construction activities will be performed upon project approval. Further evaluation of these types of risks will include subsurface exploration, sampling, and/or other forms of testing to avoid, minimize, or mitigate any potential hazardous waste impacts.

Limitation. The information presented in the ISA is based on the project scope of work, and relies on information provided by others in the description of historical conditions and a review of regulatory databases and files. PSI Environmental Geotechnical Construction observed properties adjoining the I-405 freeway from public right-of-way and conducted interviews with individual/property representatives.

No ISA can completely eliminate uncertainty regarding the potential for hazardous materials conditions in connection with a property. Performance of the ISA is intended to reduce, but not eliminate, uncertainty regarding the presence of hazardous materials conditions. The available data does not provide definitive information relative to past uses, operations, or incidents at the site or adjacent properties. The existence of site contamination that was not identified during this ISA is possible and cannot be adequately assessed without additional research beyond the stated scope of work. Once the Preferred Alternative has been formally selected, the project will advance to the next phase where further evaluation of these types of risks will include subsurface exploration, sampling, and/or other forms of testing. The complete ISA is available for public review by request.

2.2.6 AIR QUALITY

Regulatory Setting. The Clean Air Act as amended in 1990 is the federal law that governs air quality. Its counterpart in California is the California Clean Air Act (CCAA) of 1988. These laws set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). Standards have been established for six criteria pollutants that have been linked to potential health concerns; the

criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), lead (Pb), and sulfur dioxide (SO_2).

Under the 1990 Clean Air Act Amendments, the U.S. Department of Transportation cannot fund, authorize, or approve Federal actions to support programs or projects that are not first found to conform to a State Implementation Plan for achieving the goals of the Clean Air Act requirements. Conformity with the Clean Air Act takes place on two levels – first, at the regional level and second, at the project level. The proposed project must conform at both levels to be approved. Regional level conformity in California is concerned with how well the region is meeting the standards set for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), and particulate matter (PM). California is in attainment for the other criteria pollutants. At the regional level, Regional Transportation Plans (RTPs) are developed that include all of the transportation projects planned for a region over a period of years, usually at least 20 years. Based on the projects included in the RTP, an air quality model is run to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that attainment requirements of the Clean Air Act are met. If the conformity analysis is successful, the regional planning organization, such as the Southern California Association of Governments (SCAG) for Los Angeles County and five other Southern California Counties, and the appropriate federal agencies, such as the Federal Highway Administration, make the determination that the RTP is in conformity with the State Implementation Plan for achieving the goals of the Clean Air Act. Otherwise, the projects in the RTP must be modified until conformity is attained. If the design and scope of the proposed transportation project are the same as described in the RTP, then the proposed project is deemed to meet regional conformity requirements for purposes of the project-level analysis.
Conformity at the project-level also requires “hot-spot” analysis if an area is of “non-attainment” or of “maintenance” for carbon monoxide (CO) and/or particulate matter (PM). A region is a “non-attainment” area if one or more monitoring stations in the region fail to attain the relevant standard. Areas that were previously designated as non-attainment areas but have recently met the standard are called “maintenance” areas. “Hot-spot” analysis is essentially the same, for technical purposes, as CO or PM analysis performed for NEPA and CEQA purposes. Conformity does include some specific standards for projects that require a hot-spot analysis. In general, projects must not cause the CO standard to be violated, and in “nonattainment” areas the project must not cause any increase in the number and severity of violations. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well. This project is projected to receive funding for the Plans, Specifications, and Engineering (PS&E) and the Construction phases from the Los Angeles County Metropolitan Transportation Authority consisting of $53.5 million. This is a large portion of the $64 million in capital costs required for this project.

Affected Environment

The ensuing discussion is from the project’s Air Quality Report dated September 30, 2008.

Local Regulatory Setting. The proposed project is located in the South Coast Air Basin (SCAB). SCAB is comprised of parts of Los Angeles, Riverside and San Bernardino counties and all of Orange County. The basin is bounded on the west by the Pacific Ocean and surrounded on the east, north, and south by mountains. To the north lie the San Gabriel Mountains, to the north and east the San Bernardino Mountains, to the southeast the San Jacinto Mountains and to the south the Santa Ana Mountains. The basin forms a low plain and the mountains channel and confine airflow in which air pollutants are trapped.

The primary agencies responsible for regulations to improve air quality in the SCAB are the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). The Southern California Association of Governments (SCAG) is an important partner to SCAQMD, as it is the designated metropolitan planning authority for the area and produces estimates of anticipated future growth and vehicular travel in the basin that are used for air quality

planning. The SCAQMD sets and enforces regulations for non-vehicular sources of air pollution in the basin and works with SCAG to develop and implement Transportation Control Measures (TCM). TCM measures are intended to reduce and improve vehicular travel and associated pollutant emissions.

CARB was established in 1967 by the California Legislature to attain and maintain healthy air quality, conduct research into the causes and solutions to air pollution, and systematically attack the serious problem caused by motor vehicles, which are the major causes of air pollution in California. CARB sets and enforces emission standards for motor vehicles, fuels, and consumer products. The agency sets the health-based California Ambient Air Quality Standards (CAAQS) and monitors air quality levels throughout the state. The board identifies and sets control measures for toxic air contaminants. The board also performs air quality related research, provides compliance assistance for businesses, and produces education and outreach programs and materials. CARB provides assistance for local air quality districts such as SCAQMD.

The U.S. Environmental Protection Agency (U.S. EPA) is the primary federal agency for regulating air quality. The EPA implements the provisions of the Federal Clean Air Act (FCAA). This Act establishes national air quality standards (NAAQS) that are applicable nationwide. The EPA designates areas with pollutant concentrations that do not meet the NAAQS as non-attainment areas for each criteria pollutant. States are required by the FCAA to prepare State Implementation Plans (SIP) for designated non-attainment areas. The SIP is required to demonstrate how the areas will obtain the NAAQS after a non-attainment designation are redesignated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the NAAQS.

The California Clean Air Act required all air pollution control districts in the states to prepare a plan prior to December 31, 1994 to reduce pollutant concentrations exceeding the CAAQS and ultimately achieve the CAAQS. The districts are required to review and revise these plans every three years. The SCAQMD satisfies this requirement through the publication of an Air Quality Management Plan (AQMP). The AQMP is developed by SCAQMD and SCAG in coordination with local governments and the private sector. The AQMP Is incorporated into the SIP by CARB to satisfy the FCAA requirements discussed above. Table 38 below lists the current attainment designations for the SCAB. For the federal standards, the required attainment date is also shown. The unclassified documentation indicates that the air quality data for the area does not support a designation of attainment or non-attainment.

Table 38. Designations of Criteria Pollutants for the South Coast Air Basin

Ozone (O_3)	Severe-17 Non-attainment (2021)	Non-attainment
Respirable Particulate Matter (PM_{10})	Serious Non-attainment (2006)	Non-attainment
Fine Particulate Matter ($PM_{2.5}$)	Non-attainment (2015)	Non-attainment
Carbon Monoxide (CO)	Attainment/Maintenance (2000)	Attainment
Nitrogen Dioxide (NO_2)	Attainment/Maintenance (1995)	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Lead	Attainment	Attainment
Visibility Reducing Particles	n/a	Unclassified
Sulfates	n/a	Unclassified
Hydrogen Sulfide	n/a	Attainment
Vinyl Chloride	n/a	Attainment

Notes:

1. The Federal 1-hour Ozone (O_3) standard was rescinded effective June 15, 2005 with the implementation of the 8-hour standard. Prior to this the South Coast Air Basin was designated Extreme Non-Attainment for the 1-hour O_3 standard with attainment of 2010.
2. U.S. Environmental Protection Agency changed the PM2.5 24-hour standard from 65 to 35 µg/m^3 with an effective date of December 2006. Until new area designations become effective in early 2010 based on the new standard, project-level conformity determinations become effective in early 2010 based on the new standard, project-level conformity determinations must still consider the 1997 PM2.5 standards because these are the standards upon which the current PM2.5 non-attainment designations are based.

Table 38 above shows that the EPA has designated SCAB as Severe-17 non-attainment for ozone, serious non-attainment for PM_{10}, non-attainment for $PM_{2.5}$, and attainment/maintenance for CO and NO_2. The basin has been designated by the state as non-attainment for ozone, PM_{10}, and $PM_{2.5}$. The federal designations of Severe-17 and Serious affect the required attainment dates as the federal regulations have different requirements for areas that exceed the standards by greater amounts at the time of attainment/non-attainment designation.

The SCAB is designated as in attainment of the State and Federal SO_2 and lead as well as the state CO, NO_2, SO_2, lead, hydrogen sulfide, and vinyl chloride. In July 1997, EPA issued a new ozone NAAQS of 0.08 ppm using an 8-hour averaging time. Implementation of this standard was delayed by several lawsuits. Attainment/non-attainment designations for the new 8-hour ozone standard were issued on April 15, 2004 and became effective on June 15, 2005. The SCAB was designated servere-17 non-attainment, which requires attainment of the Federal Standard by June 15, 2021. As a part of the designation, the EPA announced that the 1-hour ozone standard would be revoked in June of 2005. Thus, the 8-hour ozone standard attainment deadline of 2021 supersedes and replaces the previous 1-hour ozone standard attainment deadline of 2010.

The SCAQMD is requesting that EPA change the non-attainment status of the 8-hour ozone standard to extreme. This will allow the use of undefined, or “black box,” reductions based on the anticipated development of new control technologies or improvements of existing technologies in the attainment plan. In addition, the extreme classification could extend the attainment date by three years to 2024.

On April 28, 2005 CARB adopted an 8-hour ozone standard of 0.070 ppm. The California Office of Administrative Law approved the rulemaking and filed it with the Secretary of State on April 17, 2006. The standard became effective on May 17, 2006. California has retained the 1-hour concentration standard of 0.9 ppm. To be redesignated as attainment by the state, the basin will need to achieve both the 1-hour and 8-hour ozone standards.

The SCAB was designated as moderate non-attainment of the PM_{10} standards when the designations were initially made in 1990 with a required attainment date of 1994. In 1993, the basin was redesignated as serious non-attainment with a required attainment date of 2006 because it was apparent that the basin could not meet the PM_{10} standards by the 1994 deadline. At this time, the SCAB has met the PM_{10} standards at all monitoring stations except the western Riverside County station where the annual PM_{10} standards have not been met. However, on September 21, 2006, the U.S. EPA announced that it was revoking the annual PM_{10} standard as research has indicated that there are no considerable health effects associated with long-term exposure to PM_{10}. With this change the basin is technically in attainment of the federal PM_{10} standards although the redesignation process has not yet begun.

In July 1997, EPA issued NAAQS for fine particulate matter ($PM_{2.5}$). The $PM_{2.5}$ standards include an annual standard set at 15 micrograms per cubic meter (µg/m^3), based on the three-year average of annual mean $PM_{2.5}$ concentrations and a 24-hour standard of 35 µg/m^3, based on the three-year average of the 98th percentile of 24-hour concentrations. Implementation of these

standards was delayed by several lawsuits. On January 5, 2005, the EPA took final action to designate attainment and non-attainment areas under the NAAQS for $PM_{2.5}$ effective April 5, 2005. The SCAB was designated as non-attainment with an attainment required as soon as possible but no later than 2010. EPA may grant attainment date extensions of up to five years in areas with more severe $PM_{2.5}$ problems and where emissions control measures are not available or feasible. It is likely that the SCAB will need this additional time to attain the standard.

Although there is a $PM_{2.5}$ standard, adequate tools are not currently available to perform a detailed assessment of $PM_{2.5}$ emissions and impacts at the project level. Analysis of $PM_{2.5}$ impacts is complex because it is both directly emitted from sources, like CO, and formed in the atmosphere from reactions of other pollutants, like ozone. In addition, there are no good sources for the significance thresholds for $PM_{2.5}$ emissions at this time. Until tools and methodologies are developed to assess the impacts of projects on $PM_{2.5}$ concentrations, the analysis of PM_{10} will need to be used as an indicator of potential $PM_{2.5}$ impacts.

On September 21, 2006, the EPA announced that the 24-hour $PM_{2.5}$ standard was lowered to 35 $\mu g/m^3$. Attainment/non-attainment designations for the revised $PM_{2.5}$ standard will be made by December of 2009 with an attainment date of April 2015 although the EPA could grant an extension of up to five years.

The SCAB has not had any violations of the federal CO standards since 2003. Therefore, the SCAB has met the criteria for CO attainment. The SCAQMD formally requested the EPA to redesignate the basin as attainment for CO. The EPA designated the basin as an attainment/maintenance area for June 11, 2007.

The federal annual NO_2 standard was met for the first time in 1992 and has not been exceeded since that time. The SCAB was redesignated as attainment for the NO_2 in 1998. The basin will remain a maintenance/attainment area until 2018, assuming the NO_2 standard is not exceeded.

Table 38 illustrates that SCAB is designated as in attainment of the federal SO_2 and lead NAAQS as well as the state CO, NO_2, SO_2, lead, hydrogen sulfide, and vinyl chloride CAAQS. Generally, these pollutants are not considered a concern in the SCAB.

Criteria Pollutants. Since the passage of the Federal Clean Air Act of 1970 (FCAA) and subsequent amendment, the U.S. EPA has established and revised the National Ambient Air Quality Standards (NAAQS). The NAAQS was established for six major pollutants or criteria pollutants. The NAAQS are two tiered: primary, to protect public health plaza, and secondary, to prevent degradation to the environment (i.e., impairment of visibility, damage to vegetation and property). The six criteria pollutants are ozone (O_3), carbon monoxide (CO), particulate matter (PM_{10} or $PM_{2.5}$), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). Table XX presents the state and national ambient air quality standards.

Ozone (O_3). Ozone is a toxic gas that irritates the lungs and damages materials and vegetation. Ozone is a secondary pollutant; it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from areas cities react during transport downwind to produce the oxidant concentrations experienced in the area.

Particulate Matter (PM_{10} or $PM_{2.5}$). Particulate matter includes both aerosols and solid particles of a wide range of size and composition. Of particular concern are those particles between 10 and 2.5 microns in size (PM_{10}) and smaller than or equal to 2.5 microns ($PM_{2.5}$). The size of the particulate matter is referenced to the aerodynamic diameter of the particulate. The $PM_{2.5}$ criteria are aimed at what the EPA refers to as “course particles.” Course particles are often found near roadways, dusty industries, construction sites, and fires. The $PM_{2.5}$ criteria, which are directed at particles less than 2.5 microns in size, are referred to as “fine particles.” These fine particles can also be directly emitted and they can also form when gases emitted from power plants, industries and automobiles react in the air. The principal health effect of airborne particulate matter is on the

respiratory system. Studies have linked particulate pollution with irritation of the airways, coughing, aggravated asthma, irregular heartbeat, and premature death in people with heart or lung disease.

Carbon Monoxide (CO). Carbon monoxide is a colorless and odorless gas, which, in the urban environment, is associated with the incomplete combustion of fossil fuels in motor vehicles. Carbon monoxide combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High carbon monoxide concentrations can lead to headaches, aggravation of cardiovascular disease, and impairment of central nervous system functions. Carbon monoxide concentrations can vary greatly over comparatively short distances. Relatively high concentrations are typically found near crowded intersections, along heavily used roadways carrying slow-moving traffic, and at or near ground level. Even under the most severe meteorological and traffic conditions, high concentrations of carbon monoxide are limited to locations within a relatively short distance (300 to 600 feet) of heavily traveled roadways. Overall carbon monoxide emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emissions levels for vehicles manufactured since 1973.

Nitrogen Oxides (NO_x). Nitrogen oxides from automotive sources are some of the precursors in the formation of ozone and secondary particulate matter. Ozone and particulate matter are formed through a series of photochemical reactions in the atmosphere. Because the reactions are slow and occur as the pollutants are diffusing downwind, elevated ozone levels are often found many miles from the source of precursor emission. The effects of nitrogen oxides emission are examined on a regional basis.

Lead (Pb). Lead is a stable compound, which persists and accumulates both in the environment and in animals. In humans, it affects the blood-forming or hematopoletic, the nervous, and the renal system. In addition, lead has been shown to affect the normal functions of the reproductive, endocrine, hepatic, cardiovascular, immunological, and gastrointestinal systems, although there is significant individual variability in response to lead exposure. Since 1975, lead emissions have been in decline due in part to the introduction of catalyst-equipped vehicles, and decline in production of leaded gasoline. In general, an analysis of lead is limited to projects that emit significant quantities of the pollutant (i.e. lead smelters) and are not applied to transportation projects.

Sulfur Oxides (SO_x). Sulfur oxides constitute a class of compounds of which sulfur dioxide (SO_2) and sulfur trioxide (SO_3) are of greatest importance. The oxides are formed during combustion of the sulfur components in motor fuels. Relatively few sulfur oxides are emitted from motor vehicles since motor fuels are now de-sulfured. The health effects of sulfur oxides include respiratory illness, damage to the respiratory tract, and bronchia-constriction.

Table 39. Ambient Air Quality Standards

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		Federal Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15.0 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m^3)		—		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m^3)	—	Spectrophotometry (Pararosaniline Method)
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	—	
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	1 Hour	0.25 ppm (655 µg/m^3)		—	—	—
Lead[8]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 µg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[9]	—		0.15 µg/m^3		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[8]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990 California Air Resources Board (11/17/08)

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calender year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.
8. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
9. National lead standard, rolling 3-month average: final rule signed October 15, 2008.

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (11/17/08)

Affected Environment/Environmental Conditions

Climate. The climate in and around the project area, as with all of Southern California, is controlled largely by the strength and position of the subtropical high-pressure cell over the Pacific Ocean. It maintains moderate temperatures and comfortable humidity, and limits precipitation to a few storms during the winter “wet” season. Temperatures are normally mild, except during the summer months, which commonly bring substantially higher temperatures. In all portions of the South Coast Air Basin, temperatures well above 100 degrees Fahrenheit have been recorded in recent years. With a more pronounced oceanic influence at the project location, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the site that monitors temperature is the Los Angeles WSO Airport Station. The annual average maximum temperature recorded from January 1971 to December 2000 at this station is 21.4^{o}C (70.6^{o}F), and the annual average minimum temperature recorded from January 1971 to December 2000 at this station is 13.4^{o}C (56.1^{o}F).

Winds in the project area are usually driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by daytime onshore sea breezes. At night, the wind generally slows and reverses direction traveling towards the sea. Local canyons alter the wind direction; wind tends to flow parallel to the canyons. During the transition period from one wind

pattern to the other, the dominant wind direction rotates into the south and causes a minor wind direction maximum from the south. Wind speeds in the project area average about 4 miles per hour (mph). Low average wind speeds together with a persistent temperature inversion limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, northerly or northeasterly winds, known as Santa Ana conditions, tend to last for several days at a time.

Southern California frequently has temperature inversions that inhibit the dispersion of pollutants. Inversions may be either ground-based or elevated. Ground-based inversions, sometimes referred to as radiation inversions, are most severe during clear, cold, early winter mornings. Under the conditions of a ground-based inversion, very little mixing or turbulence occurs, and high concentrations of primary pollutants may occur on local and major roadways. Elevated inversions can be generated by a variety of meteorological phenomena. Elevated inversions act as a lid or upper boundary and restrict vertical mixing. Below the elevated inversion, dispersion is not restricted. Mixing heights for elevated inversions are lower and more persistent in the summer. This low summer inversion puts a lid over the South Coast Air Basin (SCAB) and is responsible for the high level of ozone observed during summer months in the basin.

Monitored Air Quality. Air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the basin. Estimates for the SCAB have been made for existing emissions ("2003 Air Quality Management Plan", August 1, 2003). The data indicates that mobile sources are major source of regional emissions. Motor vehicles (i.e., on-road mobile sources) account for approximately 45 percent of volatile organic compounds (VOC), 63 percent of nitrogen oxide (NO_X) emissions, and approximately 76 of carbon monoxide (CO) emissions.

The SCAQMD has divided the SCAB into 38 air-monitoring areas with a designated ambient air monitoring station representative of area. The project area is represented by measurements made at the Los Angeles-Westchester Parkway monitoring station. This station is located approximately 1.25 miles from the project study area. The pollutants measured at this station include ozone, CO, $PM_{2.5}$ and nitrogen dioxide (NO_2). The next nearest station is the North Long Beach station located 11.0 miles to the southeast of the project study area, respectively. $PM_{2.5}$ and PM_{10} monitoring data are measured at this station. The air quality data monitored from 2005 to 2007 is presented in Table 40 on the following page.

The monitoring data presented in Table 40 was obtained from the CARB air quality website (www.arb.ca.gov/adam/). Federal and State air quality standards are also presented in Table 40 on the following page.

Table 40. Air Quality Levels (Los Angeles-Westchester/North Long Beach)

Ozone	0.09 ppm	None	2007	97	0.093	0	--
	for 1 hr.		2006	100	0.158	0	--
			2005	97	0.138	0	--
Ozone	0.070 ppm[3]	0.08 ppm	2007	96	0.075	1	0
	for 8 hr.	For 8 hr.	2006	100	0.109	0	0
			2005	97	0.113	2	0
CO	20 ppm	35 ppm	2007	--	--	0	0
	For 1 hour	For 1 hour	2006	98	4.8	0	0
			2005	98	5.1	0	0
CO	9 ppm	9 ppm	2007	--	--	0	0
	For 8 hour	For 8 hour	2006	98	2.4	0	0
			2005	98	2.3	0	0
NO_2	0.18 ppm	None	2007	--	--	0	n/a
(1-Hour)	For 1 hour		2006	99	0.073	0	n/a
			2005	96	0.086	0	n/a
NO_2	0.03 ppm	0.053 ppm	2007	--	--	n/a	No
(Annual)	AAM[4]	AAM[4]	2006	99	0.018	n/a	No
			2005	96	0.020	n/a	No
Particulates	None	35 µg/m[3]	2007	--	40.7	n/a	0
PM2.5		For 24 hr.	2006	--	44.0	n/a	0
(24 Hour)			2005	--	39.5	n/a	0
Particulates	12 µg/m[3]	15 µg/m[3]	2007	--	15.7	--	--
PM2.5	AAM[4]	AAM[4]	2006	--	--	--	--
(Annual)			2005	--	--	--	--
Particulates	50 µg/m[3]	150 µg/m[3]	2007	--	104	--/--	6/0
PM10	For 24 hr.	For 24 hr.	2006	88	71	10/--	0
(24 Hour)			2005	100	92	5/30	0
Particulates	20 µg/m[3]	None	2007	128	--	No	n/a
PM10	AAM[4]		2006	88	--	Yes	n/a
(Annual)			2005	100	33	Yes	n/a
SO_2	0.04 ppm	0.14 ppm	2007	--	0.003	0	0
(24 Hour)	For 24 Hr.	For 24 hr.	2006	96	0.004	0	0
			2005	97	0.006	0	0
SO_2	None	0.03 ppm	2007	--	--	n/a	No
(Annual)		AAM[4]	2006	96	0.001	n/a	No
			2005	97	0.002	n/a	No

1. Percent of year where high pollutant levels were expected that measurements were made
2. For annual averaging times a yes or no response is given if the annual average concentration exceeded the applicable standard. n/a indicates that there is no applicable standard. For the PM10 24 hour standard, daily monitoring is not performed. The first number shown in Days State Standard Exceeded column is the actual number of days measured that State standard was exceeded. The second number shows the number of days the standard would be expected to be exceeded if measurements were taken every day.
3. This concentration standard was approved by the ARB on April 28, 2005 and is expected to become effective in early 2006.
4. Annual Arithmetic Mean
-- Data Not Reported or insufficient data available to determine the value.

Source: CARB Air Quality Data Statistics web site www.arb.ca.gov/adam/ accessed 10/27/08

The monitoring data presented in Table 40 shows that ozone and particulate matter ($PM_{2.5}$ and PM_{10}) are the air pollutants of primary concern in the project area.

The State 1-hour ozone standard was not exceeded between 2005 and 2007 at the Los Angeles-Westchester monitoring station. The national 1-hour ozone standard was revoked in June 2005 and is no longer in effect. Therefore, it was not evaluated in this project's Air Quality Report. The Federal 8-hour ozone standard was not exceeded between 2005 and 2007 at this station. In contrast, the State 8-hour ozone standard was exceeded 2 days in 2005, 0 days in 2006, and 1 day in 2007. The data in this paragraph was obtained through the CARB Air Quality Data Statistics web site www.arb.ca.gov/adam/ on October 27, 2008. There does not appear to be a noticeable trend in either maximum ozone concentrations or days of excess ozone in the project study area.

Ozone is a secondary pollutant; it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from the upwind cities react during transport downwind to produce the bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of the SCAQMD contribute to the ozone levels experienced at the monitoring station, with the more significant areas being those directly upwind.

The annual average $PM_{2.5}$ concentration between 2005 and 2007 was not measured at the Los Angeles-Westchester Parkway monitoring station. The Federal 24-hour standard for $PM_{2.5}$ was never exceeded at the North Long Beach monitoring station between 2005 and 2007. Also, the annual average $PM_{2.5}$ concentration was also not measured at the Los Angeles-Westchester Parkway monitoring station between 2005 and 2007. However, both the Federal standards and State standards for annual average $PM_{2.5}$ concentration were exceeded in 2005 but not in 2006 and 2007.

The Federal standard for 24-hour concentration and annual average standard for PM_{10} was not exceeded at the Los Angeles-Westchester Parkway station. The State 24-hour concentration standard and annual average standard for PM_{10} were revoked and are not currently in effect. There does not appear to be a noticeable trend in either maximum particulate concentrations or days of exceedences in the project study area. Particulate levels in the area are due to natural sources, grading operations, and motor vehicles.

According to the U.S. EPA, some people are much more sensitive than others to breathing fine particles ($PM_{2.5}$ and PM_{10}). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms form breathing in fine particles. Children may experience decline in lung function due to breathing in $PM_{2.5}$ and PM_{10}. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many of them often breathe through their mouths.

Carbon monoxide (CO) is another important pollutant that is caused mainly by motor vehicles. Currently, CO levels in the project region are in compliance with State and Federal 1-hour and 8-hour standards.

The monitored data included in Table 45 shows that other than ozone and $PM_{2.5}$ exceedences as mentioned above, no State or Federal standards were exceeded for the remaining criteria pollutants.

Comment from the City of Inglewood – Page 92 of the document states that the nearest monitoring station (Los Angeles-Westchester Parkway) is approximately 1.25 miles and the next nearest station is the North Long Beach station located 11.0 miles to the southeast of the project study area. The Hawthorne monitoring station is approximately 1.0 to 1.5 miles east

of the project study area. Unless this station has been abandoned, it should have been referred to and used to measure air quality impacts.

Response to comment – According to the July 2009 South Coast Air Quality Management District Annual Air Quality Monitoring Network Plan , the Hawthorne site (ID No. 060375001) was replaced by LAX Hastings (ID No. 060375005) in April 2004, due to the end of a property lease. The LAX Hastings site is located at 7201 West Westchester Parkway and is also known as the Los Angeles – Westchester Parkway monitoring station. As indicated in the Draft IS/EA and in the September 2008 Air Quality Report for the proposed project, the most recent 3-year monitoring data at the Los Angeles – Westchester Parkway station were utilized in evaluating carbon monoxide operational impacts. However, the Los Angeles – Westchester Parkway monitoring station does not analyze PM2.5; and thus an analysis of operation impacts to PM2.5 and PM10 has required monitoring data from another monitoring station. As a result and as indicated in the September 2008 Air Quality Report, the North Long Beach monitoring station was selected based on the proximity to the project site, proximity to the influence, *i.e.*, I-405, and comparable surround land use.

Sensitive Receptors. Generally, sensitive receptors are facilities or land uses that include members of the population sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Residential land uses in the vicinity of the project study area are located along both sides of I-405 from Arbor Vitae Street to Century Boulevard. Two schools, two public parks, a university, and a church are located within a quarter-mile of the project impact area around I-405 from Arbor Vitae Street to Century Boulevard.

Potential Impacts as a Result of Proposed Project Implementation

Summary. Compliance with the Transportation Conformity requirements of the Federal Clean Air Act (FCAA) is demonstrated in this project. A regional air quality analysis is performed to demonstrate that the project will not adversely impact regional air quality. A local air quality analysis is performed to demonstrate that the project will not adversely impact local air quality, in the immediate vicinity of the project. The report also discusses potential impacts from Diesel Particulate Matter that has been listed by CARB as a toxic substance and presents measures to reduce PM_{10} emissions during construction. The potential for release of Naturally Occurring Asbestos (NOA) during construction is also discussed.

The project is located in the South Coast Air Basin (SCAB). The South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB) are responsible for regulating air pollutant sources in the Basin. The SCAQMD prepares the Air Quality Management Plan (AQMP) that specifies measures to meet the state and national ambient air quality standards (CAAQS and NAAQS). To demonstrate that the project will not adversely impact the region's air quality, the air quality data about this project must show that it will not result in the transportation system exceeding the air pollution budgets in the AQMP.

The 2008 Regional Transportation Plan (RTP) and 2008 Regional Transportation Improvement Program (RTIP) prepared by the Southern California Association of Governments (SCAG) are regional plans for future improvements in the areas transportation system. These plans must demonstrate that the air pollutant emissions associated with the regional transportation plan do not exceed the emissions budgets in the approved AQMP. The proposed project is part of the 2008 RTP and 2008 RTIP. Therefore, the project will not result in an exceedence of the transportation air pollutant emissions budgets and will not adversely impact regional air quality.

Local impacts, also known as "hot-spots," are assessed for CO, PM_{10}, and $PM_{2.5}$. The CO impacts are assessed using the "Transportation Project-Level Carbon Monoxide Protocol" (Protocol) developed by the Institute of Transportation Studies at the University of California Davis for Caltrans. The protocol contains a series of flow charts with criteria to determine whether or not the project will result in local CO concentrations that exceed the state and national ambient

air quality standards (AAQS). Based upon this protocol, the project will not result in an adverse local CO impact.

A $PM_{2.5}$ and PM_{10} hot-spot analysis is not required for projects that are not a project of air quality concern (POAQC). In the South Coast Air Basin, it is the SCAG's Transportation Conformity Working Group (TCWG) that makes the determination whether the project is or is not a POAQC. The required "PM Conformity Hot-spot Analysis – Project Summary for Interagency Consultation" was submitted to the TCWG for consideration at their July 22, 2008 meeting. The project was determined not to be a project of air quality concern because the facility is not expected to have a significant number of diesel vehicles (i.e. less than 10,000 per day), and because the project would not result in any increase in the number of diesel trucks that would utilize the facility. The redistribution of traffic is minor and would occur primarily near residential and commercial areas that have little truck traffic and only a marginal effect on truck movements. Therefore, the project will not result in an adverse local $PM_{2.5}$ or a PM_{10} impact.

§93.123(b)(1) requires that the PM_{10}, and $PM_{2.5}$ analysis be quantitative. However, §93.123(b)(4) waives this analysis requirement until the EPA releases modeling guidance and announces such guidance in the Federal Register. Since no modeling guidance has been released to date, §93.123(b)(4) offsets the implementation of §93.123(b)(1) and only a qualitative analysis is required.

On March 10, 2006, the EPA released guidance on PM_{10} and $PM_{2.5}$ analyses, titled Transportation Conformity Guidance for Qualitative Hot-spot Analysis in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas. This guidance supersedes previous FHWA and PM_{10} and $PM_{2.5}$ guidance. The analysis for PM_{10} and $PM_{2.5}$ hot-spot was performed under the March 2006 EPA Guidance.

Impacts from Mobile Source Air Toxics (MSATs) are also examined in the project's Air Quality Report. The analysis shows that the estimated vehicles miles traveled (VMT) are expected to decrease between the Build and No-Build Alternatives at the surrounding intersections (Century Boulevard, La Cienega Boulevard/Olive Avenue and Manchester Boulevards). The MSAT analysis acknowledges that the project may result in increased exposure to some receptors nearby and in higher localized MSAT effects when compared to the No-Build alternative. Nevertheless, emissions will be low to no appreciable difference in overall MSAT emissions between the Build and No-Build Alternative. Also, regardless of the alternative chosen, emissions will be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce MSAT emissions by 57 percent to 87 percent between 2000 and 2020. Although some studies have reported that proximity to roadways is related to adverse health impact from MSATs, the FHWA cannot evaluate the validity of these studies at this time. Therefore, MSAT concentrations or exposures created by the project cannot be predicted with enough accuracy to be useful in estimating health impacts.

Comment from the City of Inglewood – Was CALINE3 or a similar dispersion model used to predict the impact of air quality conditions on the sensitive receptors referred to on Page 94 of the report? A dispersion model sensitive receptors. There are a number of published studies and reports that suggest carcinogens (i.e. benzene, diesel exhaust, butadiene, etc) do greater damage to children and the elderly and residents that reside within 250 feet of a highway with a minimum 20,000 daily vehicles. If a dispersion model analysis was not included, it is recommended that this be performed.

Response to comment – CALINE3 has not been validated for use with pollutants such as mobile sources air toxics (MSAT) and requires information that is unavailable and incomplete for use in analyses at the project-level as discussed under Additional Air Quality Topics in the Draft IS/EA as well as in Section 5.1.2 of the September 2008 Air Quality Report. Nevertheless, the level of future MSAT emissions for the project was qualitatively assessed in accordance with the Federal Highway Administration's Interim Guidance on Air

Toxics Analysis in NEPA Documents (February 3, 2006). The qualitative MSAT assessment evaluates the level of traffic for the proposed project and provides comparative discussions in the Draft IS/EA as well as in Section 5.1.3 of the September 2008 Air Quality Report.

Regional Air Quality Analysis

Rules and Implementation. The authority requiring projects to undergo a regional emissions analysis originates from 176 (c) of the Clean Air Act Amendments of 1990. The law is codified as Title 23 of the United States Code (23 U.S.C.) and is known as the Federal Transit Act. The regulation cited to implement 23 U.S.C. is contained in Title 30 of the Code of Federal Regulation parts 51 and 93 (40 CFR 51 and 40 CFR 93). Parts 51 and 93 are commonly recognized as the Transportation Conformity Rule. On August 15, 1997, the Federal Register published a public notice in which the U.S. EPA requested to streamline the 40 CFR 51 & 93. The final rule issued by the EPA modified 40 CFR 51 and 93, and classified the Transportation Conformity Rule as 40 CFR 51.390 and 40 CFR 93.100 – 93.128.

The Transportation Conformity Rule requires a regional emissions analysis to be performed by the Metropolitan Planning Organization (MPO) for projects within its jurisdiction. For the South Coast Air Basin, the MPO is the Southern California Association of Governments (SCAG). The regional emissions analysis includes all projects listed in the Regional Transportation Plan (Plan or RTP) and the Regional Transportation Improvement Program (TIP or RTIP). The RTP is a planning document spanning a 25-year period and the TIP implements the Plan on a 6-year increment. Both the Plan and TIP must support an affirmative conformity finding to obtain FHWA approval. Projects in a Plan and TIP that have been approved by the Federal Highway Administration (FHWA) are considered to have met the conformity requirement for regional emissions analysis.

The most recently approved RTP and TIP are the 2008 RTP and the 2008 RTIP. The proposed project is partially funded and in the Southern California Association of Governments 2008 Regional Transportation Plan (RTP). The 2008 RTP was adopted by SCAG on May 8, 2008 as Resolution #08-497-2. The FHWA approved the 2008 RTP on June 5, 2008. The 2008 RTIP was adopted by SCAG on July 17, 2008 as Resolution #08-498-1. The 2008 RTIP was approved by the FHWA and the FTA on January 14, 2009.

In order to obtain FHWA approval of the Plan and TIP as conforming, the following tests, demonstrating affirmative findings with respect to the Transportation Conformity Rule, were applied to the 2008 RTP:

- Regional Emissions Analysis (Sections 93.109, 93.110, 93.118, and 93.119)
- Timely Implementation of TCMs Analysis (Section 93.113)
- Financial Constraint Analysis (Section 93.108)
- Interagency Consultation and Public Involvement Analysis (Sections 93.105 and 93.112)

Likewise, the approval of the 2008 RTIP is contingent upon satisfying all relevant CFR sections applicable:

- Consistency with SCAG's 2008 RTP (Section 450.324 of the U.S. DOT Metropolitan Planning Regulations)
- Regional Emissions Analysis (Sections 93.109, 93.118, and 93.119)
- Timely Implementation of TCMs Analysis (Section 93.113)
- Financial Constraint Analysis (Section 93.108)
- Interagency Consultation and Public Involvement Analysis (Sections 93.105 and 93.112)

Project Inclusion in Approved RTP and RTIP. The proposed project is included in the 2008 RTIP and referenced in the Plan. It is listed in Section II of Volume II of the 2008 RTIP, state

highway section, Los Angeles County. The following project information is excerpted from the 2008 RTIP:

- Lead Agency – Caltrans
- Project ID # - 49160
- Air Basin – SCAB
- Model # - L270
- Program Code – CARH3
- Route – 405
- Begin Post Mile – 22.2
- End Post Mile – 23.4
- Description from the 2008 RTIP, State Project List on page 29 of 537 – In Inglewood at Arbor Vitae Street – Construct South Half of Interchange (EA# 491601, PPNO 0831)

As previously mentioned, the MPO performs the regional analysis as part of the submitted Plan and TIP. The regional analysis requirement is deemed satisfied and conforming to the Transportation Conformity Rule upon FHWA approval of the RTP and RTIP. Projects in the TIP and Plan meet the regional analysis criterion by reference to the two documents.

Construction-Related Emissions. Construction activities associated with the proposed project would be temporary and would last the duration of project construction. The discussion below has concluded that project construction would not create adverse pollutant emissions for any of the alternatives under consideration. Short-term impacts to air quality would occur during minor grading/trenching, new pavement construction and the re-striping phase. Additional sources of construction related emissions include:

- Exhaust emissions and potential odors from construction equipment used on the construction site as well as the vehicles used to transport materials to and from the site; and
- Exhaust emissions from the motor vehicles of the construction crew.

Project construction would result in temporary emissions of CO, NO_X, ROG, and PM_{10}. Stationary or mobile powered on-site construction equipment includes trucks, tractors, signal boards, excavators, backhoes, concrete saws, crushing and/or processing equipment, graders, trenchers, pavers and other paving equipment. The amount of worker trips to the site is unknown at this time. However, given the high volume of traffic in the area, the addition of worker trips will be inconsequential. Based on the insignificant number of daily work trips required for project construction, construction worker trips are not anticipated to significantly contribute to or affect traffic flow on local roadways and are therefore not considered significant. During the demolition phase some asphalt concrete (AC) pavement and curbs and gutters would have to be removed.

In order to further minimize construction-related emissions, all construction vehicles and construction equipment would be required to be equipped with the state-mandated control devices pursuant to state equipment regulations and standard construction practices. After the completion of the project's concentration, all construction-related impacts would cease, thus resulting in a less than significant impact. Short-term construction PM_{10} emissions would be further reduced with the implementation of required dust suppression measures outlined within SCAQMD Rule 403. Note that Caltrans Standard Specifications for construction (Sections 10 and 18 [Dust Control] and Section 39-3.06 [Asphalt Concrete Plants]) must also be adhered to. Therefore, project construction is not anticipated to violate State or Federal air quality standards or contribute to the existing air quality violation in the air basin.

Section 93.122(d)(2) of the U.S. EPA Transportation Conformity Rule requires that in PM_{10} non-attainment and maintenance areas (for which the State Implementation Plans (SIPs) identify construction-related fugitive dust as a contributor to the area problem), the RTIP should conduct the construction-related fugitive PM_{10} emission analysis. The 2003 PM_{10} SIP/AQMP emissions

budgets for SCAB include the construction and unpaved road emissions. The 2008 RTIP PM_{10} regional emissions analysis includes the construction and unpaved road emissions for conformity finding.

Minimization of PM_{10} During Construction

The approved 2004 Particulate Matter SIP contains provisions calling for mitigation of PM_{10} emissions during construction. Pursuant to §93.117, Caltrans, the project sponsor, is required to stipulate to include, in its final plans, specifications, and estimates, control measures that will limit the emission of PM_{10} during construction.

The PM_{10} emissions is a composite of geologic and aerosol variety. The prime concern during construction is to mitigate geologic PM_{10} that occurs from earth movement such as grading. SCAQMD sponsored the PM_{10} SIP is with concurrence by the CARB. The SCAQMD has amended the 2004 Rule 403 Implementation Handbook (Handbook) in June 2005. It addresses the mitigation of PM_{10} by reducing the ambient entrainment of fugitive dust. Fugitive dust consists of solid particulate matters that become airborne due to human activity such as construction and is a subset of total suspended particulates. Likewise, PM_{10} is a subset of total suspended particulates. The Handbook states that 50 percent of total particulate matter suspended comprise of PM_{10}. Hence, minimizing fugitive dust, emissions of geologic PM_{10} are reduced.

During construction of the proposed project, the property owner/developer and its contractors shall be required to comply with regional rules, which shall assist in reducing short-term air pollutant emissions. SCAQMD Rule 402 requires that air pollution emissions not be a nuisance off-site. SCAQMD Rule 403 requires that fugitive dust be controlled with the best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Two options are presented in Rule 403: Monitoring of particulate concentrations or active control. Monitoring involves a sampling network around the project with no additional control measures unless specified concentrations are exceeded. The active control option does not require any monitoring, but requires that a list of measures be implemented starting with the first day of construction. This project will be in full compliance with both Rule 402 and Rule 403.

Local Air Quality Analysis

Overview of Local Analysis. The local analysis is commonly referred to as project level air quality or “hot-spot” analysis. The primary focus is the operational impact on air quality created by the proposed improvement. Unlike a regional analysis, a local analysis is constrained in scope and is limited to a particular project. The criteria pollutants analyzed do not consist of all pollutants in non-attainment. The analysis is restricted to carbon monoxide, PM_{10}, $PM_{2.5}$. The analysis years consist of the year opening to traffic and the ultimate horizon year referenced in the approved Regional Transportation Plan rather than a series of present and future years. The approach to the local analysis is tiered and is dependent on the status of the carbon monoxide SIP: the CO analysis can be qualitative, quantitative, or computational. The PM_{10} and $PM_{2.5}$ analysis is qualitative in scope.

Similar to the regional analysis, the Transportation Conformity Rule also applies to the local analysis. Sections of pertinence are 40 CFR 93.115 to 93.117, 93.123, and 93.126 to 93.128. In California, the procedures of the local analysis for carbon monoxide are modified pursuant §93.123(a)(1). Sub-paragraph (a)(1) states the following:

Local Analysis: Carbon Monoxide Operational Impacts

***CO hot-spot analysis*.** (1) The demonstrations required by §93.116 (“Localized CO and PM_{10} violations”) must be based on a quantitative analysis using the applicable air quality models, databases, and other requirements specified in 40 CFR part 51, Appendix W (Guideline on Air Quality Models). These procedures shall be used in the following cases, unless different

procedures developed through the interagency consultation process required in §93.105 and approved by the U.S. EPA Regional Administrator are used:

The sub-paragraph (a)(1) allows for an alternative. In California, the procedure for performing a CO analysis is detailed in the Transportation Project-Level Carbon Monoxide Protocol (Protocol) developed by the Institute of Transportation Studies at the University of California, Davis. David P. Howekamp, Director of the Air Division of the U.S. EPA Region IX, approved the Protocol in October 1997. The EPA deemed the Protocol as an acceptable option to the mandated quantitative analysis. The Protocol incorporates §93.115 – 93.117, §93.126 – 93.128 into its rules and procedures.

The scope required for local analysis is summarized in Section 3, Determination of Project Requirement, and Section 4, Local Analysis, of the Protocol. Section 3 incorporates §93.115 and the procedure to determine project requirements begins with the Figure 1: Requirements for New Projects. The sections cited is followed by a response, which will determine the next applicable section of the flowchart for the proposed project.

The project is currently classified as being in attainment/maintenance for CO. The project was redesignated as in "attainment" after the 1990 Clean Air Act and has shown continued attainment for CO. The most recent 3 years of the 4-highest CO data monitored at the Los Angeles – Westchester Parkway station indicate that there is no recorded violation within the most recent three years of CO data. On June 11, 2007, the SCAB was redesignated as in attainment/maintenance for the CO NAAQS. The project has the potential to worsen air quality by way of: 1) an increase in cold starts, 2) increase in traffic volumes, and 3) worsening of traffic flows. Although the project will not increase the percentage of vehicles operating in false start mode or increase traffic volumes along the I-405 mainline, it will increase or decrease traffic volumes, particularly the AM and PM Peaks, by five percent or less at the intersections under study. The proposed project is anticipated to relieve congestion at the existing neighboring interchanges, and to reduce travel time on the freeway and adjacent local streets. The proposed project would also help re-distribute the traffic from the surrounding existing local intersections. The Arbor Vitae New South Half Interchange is not expected to worsen the traffic flow but is anticipated to improve flows during AM and PM peaks.

In general, the background CO concentration and the vehicular air pollutant emission factors are projected to decrease steadily in the future years due to newer, cleaner vehicles. While the local traffic volumes are project to increase slightly in the future, this increase in volumes is more than offset by the decrease of background CO levels and lower emission factors. The proposed project will not cause or contribute to any new violation of the federal CO standard.

Local Analysis: $PM_{2.5}$ and PM_{10} Operational Impacts

Clean Air Act section 176(c)(1)(B) is the statutory criterion that must be met by all projects in the nonattainment and maintenance areas that are subject to transportation conformity. Section 176(c)(1)(B) states that federally-supported transportation projects must not "cause or contribute to any new violation of any standard in any area; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area." To meet statutory requirements, the March 10, 2006 final rule requires $PM_{2.5}$ and PM_{10} hot-spot analyses to be performed for projects of air quality concern. Qualitative hot-spot analyses would be done for these projects before appropriate methods and modeling guidance are available and quantitative $PM_{2.5}$ and PM_{10} hot-spot analyses are required under 40 CFR 93.123(b)(4). In addition, through the final rule, the EPA determined that projects not identified in 40 CFR 93.123(b)(1) as projects of air quality concern (PQAQC) have also met statutory requirements without any further hot-spot analyses (40 CFR 93.116(a)).

A $PM_{2.5}$ and PM_{10} hot-spot analysis is not required for projects that are not a POAQC. In the South Coast Air Basin, it is the Southern California Association of Governments (SCAG) Transportation Conformity Working Group (TCWG) that makes the determination whether the project is or is not a POAQC. The TCWG is a forum to support interagency coordination to help improve air quality and maintain inclusive air quality planning process and to fulfill the interagency consultation requirements of the Federal Transportation Conformity Rule. Membership of the Southern California TCWG include federal (U.S. EPA, U.S. EPA Region 9, FHWA, FTA), state (CA Air Resources Board, Caltrans), regional (Air Quality Management Districts, SCAG, etc.), and sub-regional (County Transportation Commissions) agencies and other stakeholders.

The required "PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation" was submitted to the TCWG for consideration at their July 22, 2008 meeting. The notice posted on the TCWG website that this project (#ID 49160) is not a POAQC. A copy of the project summary submitted to the SCAG TCWG and a list of its determinations is provided in the Appendices.

The project was determined not to be a project of air quality concern because the facility is not expected to have a significant number of diesel vehicles (i.e. less than 10,000 per day), and because the project would not result in any increase in the number of diesel trucks that would utilize the facility. The redistribution of traffic is minor and would occur primarily near residential and commercial areas that have little truck traffic and only a marginal effect on truck movements. Therefore, the project will not result in an adverse local $PM_{2.5}$ or a PM_{10} impact. The "Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas," (U.S. EPA & FHWA, March 2006) provides examples of projects that are not an air quality concern. The first example is consistent with this proposed project, and the example is described as "Any new or expanded highway project that primarily services gasoline vehicle traffic (i.e., does not involve a significant number of increase in the number of diesel vehicles), including such projects involving congested intersections operating at Level-of-Service D, E, or F…" The project is not expected to increase the number of diesel vehicles on I-405, the on- and off-ramps, and intersections within the project study area, and accordingly, the TCWG determined that this project is not a project of air quality concern.

Additional Air Quality Topics

Mobile Source Air Toxics. In addition to the criteria air pollutants for which there are National Ambient Air Quality Standards (NAAQS), EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g. airplanes), area sources (e.g. dry cleaners) and stationary sources (e.g.s. factories or refineries).

Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the Clean Air Act. The MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

The EPA is the lead Federal Agency for administering the Clean Air Act and has certain responsibilities regarding the health effects of MSATs. The EPA issued a Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Source 66 FR 17229 (March 29, 2001). This rule was issued under the authority in Section 202 of the Clean Air Act. In its rule, the EPA examined the impacts of existing and newly promulgated mobile source control programs, including its reformulated gasoline (RFG) program, its national low emission vehicle (NLEV) standards, its Tier 2 motor vehicles emissions standards and gasoline sulfur control requirements, and its proposed heavy duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. Between 2000 and 2020, FHWA projects that even with a 64 percent increase in vehicle miles traveled (VMT), these programs will reduce on-highway

emissions of benzene, formaldehyde, 1, 3-butadiene, and acetaldehyde by 57 percent to 65 percent, and will reduce on-highway diesel Particulate Matter (PM) emissions by 87 percent, as shown in Figure 2-15 (Federal Highway Administration, Memorandum: Interim Guidance on Air Toxics Analysis in NEPA Documents, February 3, 2006) on the following page.

As a result, EPA concluded that no further motor vehicle emissions standards or fuel standards were necessary to further control MSATs. The agency is preparing another rule under authority of CAA Section 202(I) that will address these issues and could make adjustments to the 21 full MSATs and the primary six MSATs.

California's vehicle emission control and fuel standards are more stringent than Federal standards, and are effective sooner, so the effect of air toxics of combined State and Federal regulations is expected to result in greater emission reductions, more quickly, than the FHWA analysis shows. The FHWA analysis with modifications related to the use of the California-specific EMFAC model rather than the MOBILE model, would be conservative in its findings.

Additional efforts are being undertaken by the CARB to control diesel particulate matter (PM). The CARB has found that diesel PM contributes over 70 percent of the known risk air toxics and poses the greatest cancer risks among all identified air toxics. Diesel trucks contribute more than half of the total diesel combustion sources. However, the CARB has adopted a Diesel Risk Reduction Plan (DRRP) with control measures that would reduce the overall diesel PM emissions by about 85% from 2000 to 2020. In addition, total toxic risk from diesel exhaust may only be exposed for a much shorter duration. Diesel PM is only one of many environmental toxics and those of other toxics and other pollutants in various environmental media that may overshadow its cancer risks. Therefore, while diesel exhaust may pose potential cancer risks to receptors spending time on or near high-risk diesel PM facilities, most receptors' short-term exposure would only cause minimal harm, and these risks would also greatly diminish in the future operating years of the project due to planned emission control regulations.

From 2000 to 2010, CARB staff predicts diesel PM emissions and risk would decrease by only about 20 percent if the recommended are not implemented. This reduction would result form the implementation of existing federal and state regulations and the attrition of older diesel-fueled passenger cars and light-duty trucks from the on-road fleet. The U.S. EPA has proposed new, lower emission standards for heavy-duty trucks for 2007 and lower sulfur limits for diesel fuel (on-road vehicles only) in 2006. The benefits of these proposed rules are not included as existing measures because they have not yet been adopted.

The recommended measures can be grouped as follows: measures addressing on-road vehicles, measures addressing off-road equipment and vehicles, and measures addressing stationary and portable engines. These measures include the EPA's 2007 new heavy-duty truck standards and the 2006 low-sulfur diesel fuel limits. Off-road recommended measures will have the largest impact, resulting in over 90 percent reduction of the diesel PM reductions associated with all of the off-road measures. On-road and stationary and portable recommended measures would result in about an 80 reduction of the diesel PM reductions associated with all of the on-road and stationary and portable recommended measures.

Figure 2-17. Projected Percent Reduction in Diesel PM Cancer Risk from Year 2000 Levels

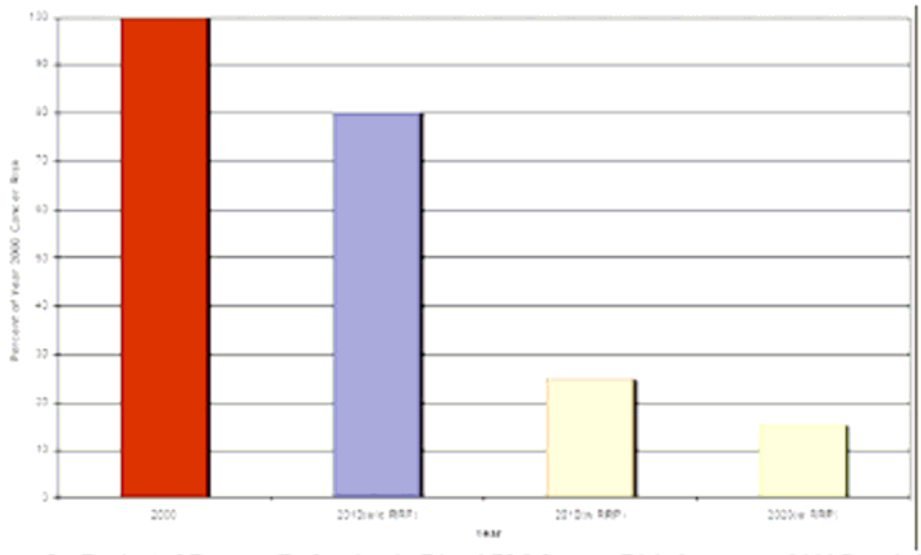


Figure 5: Projected Percent Reduction in Diesel PM Cancer Risk from year 2000 Levels With and Without ARB Risk Reduction Plan (RRP) Implemented

Figure 2-18. Projected Diesel PM Emission Levels With and Without ARB Risk Reduction Plan

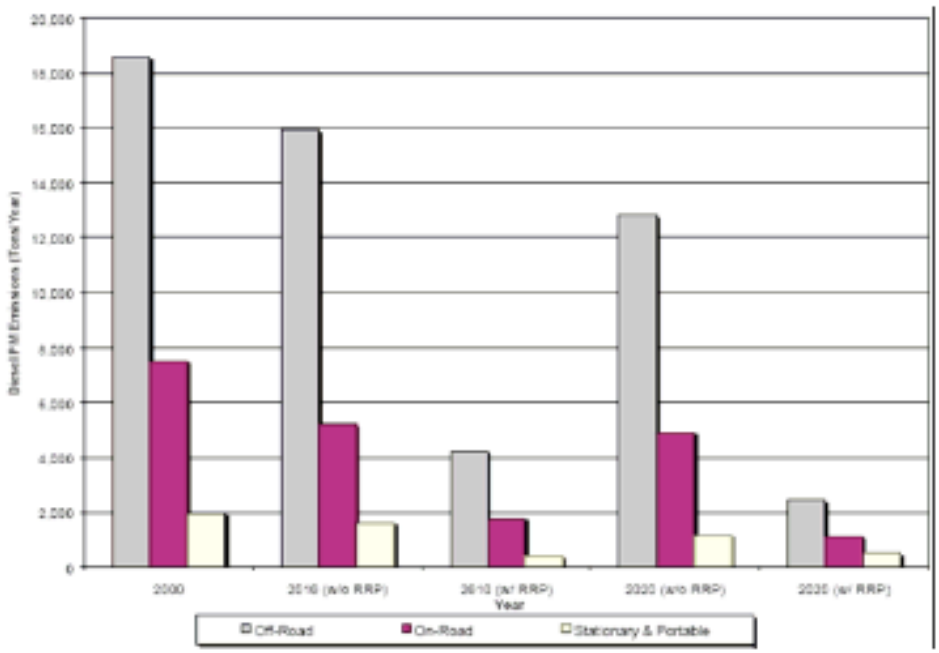


Figure 6: Projected Diesel PM Emission Levels With and Without ARB Risk Reduction Plan (RRP) Implemented

Unavailable Information for Project Specific MSAT Impact Analysis

This study includes a basic analysis of the likely MSAT emission impacts of this project per FHWA guidance (Federal Highway Administration, Memorandum: Interim Guidance on Air Toxics Analysis in NEPA Documents, February 3, 2006). However, available technical tools do not enable us to predict the project-specific health impacts of the emission changes associated with the Alternatives in this study. Due to these limitations, the following discussion is included in accordance with CEQ regulations (40 CFR 1502.22(b)) regarding incomplete or unavailable information:

Information that is Unavailable or Incomplete. Evaluating the environmental and health impacts from MSATs on a proposed highway project would involve several key elements, including emissions modeling, dispersion modeling in order to estimate ambient concentrations resulting from estimated emissions, exposure modeling in order to estimate human exposure to the estimated concentrations, and then final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the MSAT health impacts of this project.

Emissions. The U.S. EPA and California EPA tools to estimate MSAT emissions from motor vehicles are not sensitive to key variables determining emissions of MSATs in the context of highway projects. MOBILE 6.2 has been developed by the U.S. EPA to predict on-road vehicular emissions. EMFAC (either EMFAC2002 or the EMFAC2007 version) has been developed by the California Air Resources Board to predict vehicular emissions in California. While both MOBILE 6.2 and EMFAC2007 are used to predict emissions at a regional level, they have limitations when applied at the project level. Both are trip-based models – emission factors are predicted based on a typical trip length of around 7.5 miles, and on average speeds for this typical trip. This means that neither model has the ability to predict emission factors for a specific vehicle operating condition at a specific location at a specific time. Because of this limitation, both models can only approximate emissions from the operating speeds and levels of congestion likely to be present on the largest-scale projects, and cannot adequately capture emissions effects of smaller projects. For Particulate Matter (PM), the MOBILE 6.2 model results are not sensitive to average trip speed; however, PM emissions from the EMFAC model are sensitive to trip speed, so for California conditions diesel PM emissions are treated the same as other emissions. Unlike MOBILE 6.2, the EMFAC model does not provide MSAT emission factors; off-model speciation of EMFAC's Total Organic Compounds output must be used to generate MSAT emissions. The emissions rates used in both MOBILE 6.2 and EMFAC are based on a limited number of vehicle tests.

These deficiencies compromise the capability of both MOBILE 6.2 and EMFAC2007 to estimate MSAT emissions. Both are an adequate tool for projecting emissions trends, and performing relative analyses between alternatives for very large projects, but neither is sensitive enough to capture the effects of travel changes caused by smaller projects or to predict emissions near specific roadside locations.

Dispersion. The tools to predict how MSATs disperse are also limited. The U.S. EPA's current regulatory models, CALINE3 and CAL3QHC, were developed and validated more than a decade ago for the purpose of predicting episodic concentrations of carbon monoxide (CO) to determine compliance with the NAAQS. The CALINE4 model used in California is an improvement on the CALINE3-based EPA models but like them, was built primarily for CO analysis. This model has not been specifically validated for use with other materials such as MSATs, and is difficult to use for averaging periods of more than 8 hours or so (health risk data for MSATs are typically based on 24-hour, annual, and long term (30-70 years) exposure). Dispersion models are appropriate for predicting maximum concentrations that can occur at some time at some location within a geographic area but cannot accurately predict exposure patterns at specific times at specific locations across an urban area to assess potential health risk. The National Cooperative Highway Research Program (NCHRP) is conducting research on best practices in applying models and

other technical methods in the analysis of MSATs. This work also will focus on identifying appropriate methods of documenting and communicating MSAT impacts in the NEPA process and to the general public. Along with these general limitations of dispersion models, FHWA is also faced with a lack of adequate monitoring data in most areas for use in establishing project-specific MSAT background concentrations.

Exposure Levels and Health Effects. Finally, even if emission levels and concentrations of MSATs could be accurately predicted, shortcomings in current techniques for exposure assessment and risk analysis preclude us from reaching meaningful conclusions about project-specific health impacts. Exposure assessments are challenging because it is difficult to accurately calculate annual concentrations of MSATs near roadways, and to determine the portion of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over a 70-year period. There are also considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population. Because of these shortcomings, any calculated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against other project impacts that are better suited for quantitative analysis.

Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of MSATs.

Research into the health impacts of MSATs is ongoing. For different emission types, there are a variety of studies that show that some are either statistically associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in occupational settings) or that animals demonstrate adverse health outcomes when exposed to large doses.

Exposure to toxic has been a focus of a number of U.S. EPA efforts. Most notably, the agency conducted the National Air Toxics Assessment (NATA) in 1996 to evaluate modeled estimates of human exposure applicable to the county level. While not intended for use as a measure or benchmark for local exposure, the modeled estimates in the NATA database best illustrate the levels of various toxics when aggregated to a Federal or State level.

The EPA Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment. The IRIS database is located at http://www.epa.gov/iris. The following toxicity information for the six prioritized MSATs was taken from the IRIS database *Weight of Evidence Characterization* summaries. This information is taken verbatim from EPA's IRIS database and represents the Agency's most current evaluation of the potential hazards and toxicology of these chemicals or mixtures. The five organic-based MSAT's listed below are also listed as toxic air contaminants by the California Air Resources Board (CARB).

Benzene is characterized as a known human carcinogen.

The potential carcinogenicity of **acrolein** cannot be determined because the existing data is inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.

Formaldehyde is a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.

1, 3-butadiene is characterized as carcinogenic to humans by inhalation.

Acetaldehyde is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.

Diesel exhaust (DE) is likely to be carcinogenic to humans by inhalation from environmental exposure. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases. The PM fraction of diesel exhaust (Diesel PM) has been identified by CARB as a toxic air contaminant due to long-term cancer risk.

Diesel exhaust is also connected with chronic respiratory effects, possibly the primary noncancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.

There have been other studies that address MSAT health impacts in proximity to roadways. The Health Effects Institute, a non-profit organization funded by EPA, FHWA, and industry, has undertaken a major series of studies to research near-roadway MSAT hot-spots, the health implications of the entire mix of mobile source pollutants, and other topics. The final summary of the series is not expected for several years.

Some recent studies have reported that proximity to roadways is related to adverse health outcomes – particularly respiratory problems. Much of this research is not specific to MSATs, instead surveying the full spectrum of both criteria and other pollutants. The FHWA cannot evaluate the validity of these studies, but more importantly, they do not provide information that would be useful to alleviate the uncertainties listed above and enable us to perform a more comprehensive evaluation of the health impacts specific to this project.

Relevance of Unavailable or Incomplete Information to Evaluating Reasonably Foreseeable Significant Adverse Impacts on the Environment, and Evaluation of impacts based upon theoretical approaches or research methods generally accepted in the scientific community.

Because of the uncertainties outlined above, a reliable quantitative assessment of the effects of air toxic emissions impacts on human health cannot be made at the project level. While available tools do allow us to reasonably predict relative emissions changes between alternatives for larger projects, the amount of MSAT emissions from each of the project alternatives cannot be predicted with enough accuracy to be useful in estimating health impacts. (As noted above, the current emissions model is not capable of serving as a meaningful emissions analysis tool for smaller projects.) Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether any of the alternatives would have “significant adverse impacts on the human environment.”

Below, a quantitative analysis of MSAT emissions in the project area is provided. This analysis acknowledges that the project may result in slightly increased exposure to MSAT emissions in certain locations compared to no project conditions. However, the analysis shows that exposure to MSAT emissions in the future will be less than current conditions. The concentrations and duration of exposure are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated.

MSAT Emissions in the Project Area. As discussed above, the technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable estimates of the MSAT emissions and effects of this project. However, even though reliable methods do not exist to accurately estimate the health impacts of MSATs at the project level, it is possible to qualitatively assess the levels of future MSAT emissions under the projects. Although a qualitative analysis cannot identify and measure health impacts from MSATs, it can give a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the project alternatives. Based on the FHWA MSAT analysis guidance

(Federal Highway Administration, Memorandum: Interim Guidance on Air Toxics Analysis in NEPA Documents, February 3, 2006) this project would be considered as a project with potential low differences in MSAT effects among project alternatives.

The amount of MSATs emitted would be proportional to the Average Daily Traffics (ADTs), assuming that other variables such as fleet mix and lengths of the project are the same alternative. As indicated in Table 41 below and Table 42 on the following page, the overall projected ADTs for the intersections in the vicinity of the proposed project and I-405 are expected to decrease between the Build and No-Build Alternatives on the intersection(s) and mainline. Relieving congestion by enhancing operations and improving travel times along I-405 and the intersections within and adjacent to the project study area will lead to an overall reduction in greenhouse gas emissions. The Traffic Management Plan protocols developed during the Project Approval and Environmental Document and Construction Phases of this project will aid in reducing construction-related traffic delays. The project's beneficial effect on traffic, vehicle miles traveled and delay time will improve mobility and safety and reduce carbon dioxide emissions.

Table 41. Average Daily Traffic for Alternative 1: No Build

	Location	2007			2014			2035		
		AM	PM	ADT	AM	PM	ADT	AM	PM	ADT
1	NB Rte. 405 collector-distributor	3,622	2,449	34,786	3,884	2,626	37,296	4,787	3,237	45,964
2	NB off-ramp to Century Blvd.	1,531	939	16,118	1,642	1,007	17,281	2,024	1,242	21,297
3	NB on-ramp from EB Century Blvd.	766	857	11,426	822	919	12,251	1,014	1,133	15,099
4	NB on-ramp from WB Century Blvd.	633	409	6,325	679	439	6,782	837	542	8,359
5	NB Rte. 405 collector-distributor/off-ramp to Manchester Blvd. and La Cienega Blvd.	2,602	2,143	34,480	2,790	2,298	36,968	3,439	2,833	45,560
6	Slip ramp between NB 405 collector-distributor and NB off-ramp to Manchester Blvd.	1,633	908	13,568	1,751	974	14,547	2,158	1,201	17,928
7	NB off-ramp to Manchester Blvd.	1,531	980	17,852	1,642	1,051	19,140	2,024	1,296	23,588
8	NB on-ramp from EB Manchester Blvd.	582	449	6,223	624	482	6,672	770	595	8,223
9	NB on-ramp from WB Manchester Blvd.	1,021	623	10,201	1,095	668	10,937	1,350	824	13,479
10	SB on-ramp from La Cienega Blvd.	2,347	1,990	24,177	2,517	2,134	25,922	3,102	2,630	31,947
11	SB on-ramp from La Cienega Blvd./Olive Ave.	1,010	1,072	15,404	1,083	1,150	16,516	1,335	1,418	20,355
12	SB Rte. 405 collector-distributor	1,123	2,092	17,342	1,205	2,243	18,593	1,486	2,765	22,914
13	SB off-ramp to WB Century Blvd.	847	715	15,098	909	767	16,188	1,121	946	19,950
14	SB on-ramp from WB Century Blvd.	378	470	4,795	406	504	5,141	501	622	6,336
15	SB off-ramp to EB Century Blvd.	225	480	4,183	242	515	4,485	299	635	5,528
16	SB on-ramp from EB Century Blvd.	562	725	10,099	603	778	10,828	744	959	13,345
17	SB on-ramp from Arbor Vitae St.	0	0	0	0	0	0	0	0	0
18	NB off-ramp to Arbor Vitae St.	0	0	0	0	0	0	0	0	0
19	SB Route 405 (N/O Jct Rte. 105)	8,161	9,691	158,626	8,566	10,172	169,155	9,934	11,797	196,083
20	NB Route 405 (N/O Jct Rte. 105)	11,120	10,201	158,626	11,677	10,708	169,155	13,559	12,418	196,083
21	SB Route 405 (N/O Century Blvd.)	7,957	9,589	155,566	8,363	10,071	166,479	9,731	11,695	192,979
22	NB Route 405 (N/O Century Blvd.)	10,916	9,997	155,566	11,446	10,505	166,479	13,242	12,215	192,979

ADT = Average Daily Traffic for 2007 (Existing), 2014 (Operational Year), and Horizon Year (2035)
Source: Caltrans District 7 Office of Freeway Operations

Table 42. Average Daily Traffic for Alternative 2: New South Half Interchange

	Location	2007			2014			2035		
		AM	PM	ADT	AM	PM	ADT	AM	PM	ADT
1	NB Rte. 405 collector-distributor	3,622	2,449	34,786	3,813	2,576	36,508	4,454	3,003	42,321
2	NB off-ramp to Century Blvd.	1,531	939	16,118	1,237	732	15,169	1,217	714	13,090
3	NB on-ramp from EB Century Blvd.	766	857	11,426	860	883	11,981	1,161	977	13,862
4	NB on-ramp from WB Century Blvd.	633	409	6,325	621	446	6,656	595	567	7,767
5	NB Rte. 405 collector-distributor/off-ramp to Manchester Blvd. and La Cienega Blvd.	2,602	2,143	34,480	2,950	2,129	36,415	4,049	2,129	42,863
6	Slip ramp between NB 405 collector-distributor and NB off-ramp to Manchester Blvd.	1,633	908	13,568	1,586	883	13,174	1,475	824	12,240
7	NB off-ramp to Manchester Blvd.	1,531	980	17,852	1,237	761	15,068	795	394	8,072
8	NB on-ramp from EB Manchester Blvd.	582	449	6,223	621	458	6,526	749	493	7,553
9	NB on-ramp from WB Manchester Blvd.	1,021	623	10,201	1,063	667	10,708	1,029	813	12,418
10	SB on-ramp from La Cienega Blvd.	2,347	1,990	24,177	2,463	2,089	25,366	2,857	2,422	29,385
11	SB on-ramp from La Cienega Blvd./Olive Ave.	1,010	1,072	15,404	791	811	11,975	549	485	8,155
12	SB Rte. 405 collector-distributor	1,123	2,092	17,342	943	1,716	14,740	432	647	7,354
13	SB off-ramp to WB Century Blvd.	847	715	15,098	979	1,207	15,433	1,392	2,731	16,714
14	SB on-ramp from WB Century Blvd.	378	470	4,795	456	466	3,721	382	218	3,659
15	SB off-ramp to EB Century Blvd.	225	480	4,183	237	505	4,299	281	591	4,727
16	SB on-ramp from EB Century Blvd.	562	725	10,099	446	548	7,848	351	379	5,399
17	SB on-ramp from Arbor Vitae St.	0	0	0	578	659	8,376	1,374	1,586	20,097
18	NB off-ramp to Arbor Vitae St.	0	0	0	761	524	8,943	1,796	1,290	21,017
19	SB Route 405 (N/O Jct Rte. 105)	8,161	9,691	158,626	8,566	10,172	169,155	9,934	11,797	196,083
20	NB Route 405 (N/O Jct Rte. 105)	11,120	10,201	158,626	1,167	10,708	169,155	133,559	12,418	196,083
21	SB Route 405 (N/O Century Blvd.)	7,957	9,589	155,566	8,363	10,071	166,479	9,731	11,695	192,979
22	NB Route 405 (N/O Century Blvd.)	10,916	9,997	155,566	11,446	10,505	166,479	13,242	12,215	192,979

ADT = Average Daily Traffic for 2007 (Existing), 2014 (Operational Year), and Horizon Year (2035)
Source: Caltrans District 7 Office of Freeway Operations

Build Alternative 2 proposes to construct a New South Half Interchange at Arbor Vitae Street and I-405 and therefore the projected traffic volumes at the Arbor Vitae Intersections will increase. Due to an anticipated redistribution of traffic utilizing the Arbor Vitae New South Half Interchange, however, future traffic volumes at surrounding intersections are projected to decrease. The projected overall volumes are expected to decrease with the Build Alternative when compared to the No-Build Alternative. Also, it is expected that there would be low to no appreciable difference in overall MSAT emissions among the various alternatives. Based on the reduction in the projected overall traffic volumes with the Build Alternative, it is anticipated that the overall MSAT emissions would also decrease. In addition, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's and California's control programs that are projected to reduce MSAT emissions by at least 57 to 87 percent from 2000 to 2020. Local conditions may differ from these national projections in terms of fleet mix and turnover, ADT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in virtually all locations.

Naturally Occurring Asbestos (NOA). Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified as a toxic air contaminant by the CARB in 1986. All types of asbestos are hazardous and may cause lung disease and cancer.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed.

Serpentinite may contain chrysotile asbestos, especially near fault zones. Ultramafic rock, a rock closely related to serpentinite, may also contain asbestos minerals. Asbestos can also be associated with other rock types in California, though much less frequently than serpentinite and/or ultramafic rock. Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties of the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. The California Department of Conservation, Division of Mines and Geology have developed a map of the state showing the general location of ultramafic rock in the state. Los Angeles County is one of the Counties identified as one of the Counties containing serpentinite and ultramafic rock. However, only the Catalina Island portion of Los Angeles County has been found to contain such rock; hence, it is not found in the project study area. Therefore, no potential impacts from naturally occurring asbestos during project construction would occur.

While unlikely, if naturally occurring asbestos, serpentine, or ultramific rock is discovered during grading operations Section 93105, Title 17 of the California Code of Regulations requires notification to the SCAQMD by the next business day and implementation of the following measures within 24-hours:

- Unpaved areas subject to vehicle traffic must be stabilized by being adequately wetted, treated with a chemical dust suppressant, or covered with material that contains less than 0.25 percent asbestos
- The speed of any vehicles and equipment traveling across unpaved areas must be no more than fifteen (15) miles per hour unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 miles per hour from emitting dust that is visible crossing the project boundaries
- Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept adequately wetted, treated with a chemical dust suppressant, or covered with material that contains less than 0.25 percent asbestos
- Activities must be conducted so that no track-out from any road construction project is visible on any paved roadway open to the public

Concluding Comments About Air Quality. This project-level Air Quality Report addresses all pertinent aspects of conformity and adheres to the Transportation Conformity Rule. The proposed project is listed and fully funded in the FHWA approved 2008 RTP and the 2008 RTIP. The design, concept, and scope of the project have not changed significantly and the project is not likely to result in adverse impact on the ambient air quality in the project vicinity. Based on the most recent 3-years of CO data at the Los Angeles – Westchester Parkway air monitoring station, it is unlikely that the proposed project will contribute to the ambient CO level to violate National Ambient Air Quality Standards (NAAQS).

The proposed project is located in Los Angeles County, a federally designated nonattainment area for both $PM_{2.5}$ and PM_{10}; therefore, a PM project-level hot-spot analysis is required. On July 22, 2008, the SCAG TCWG concurred that this project would not be a POAQC for $PM_{2.5}$ and PM_{10}. It was determined that this project met the conformity requirements for $PM_{2.5}$ and PM_{10} without a qualitative analysis and in accordance with the March 10, 2006 Final Rule. A discussion of fugitive dust control measures is provided, and it is recommended that the measure be included as project commitments prior to construction. The activities of the proposed project are not expected to cause any new violations, worsen existing violations, or delay timely attainment of the NAAQS. The analysis shows that MSAT emissions in the project area will decrease in future years and that the project would result in a decrease in MSAT emissions compared to no project conditions. Control measures have been identified for naturally occurring asbestos should rock containing asbestos be uncovered.

The proposed project is fully funded and is in the Southern California Association of Governments 2008 Regional Transportation Plan (RTP), which was found to conform by the Southern California Association of Governments (SCAG) on May 8, 2008 and FHWA and FTA adopted the air quality

conformity finding on June 5, 2008. The project is also included in the SCAG's 2008 Regional Transportation Improvement Program (RTIP), page 29. The 2008 RTIP was approved by the FHWA and the FTA on January 14, 2009. The design, concept, and scope of the proposed project is consistent with the project description in 2008 RTP, the 2008 RTIP and assumptions in the SCAG's regional emissions analysis.

2.2.7 NOISE AND VIBRATION

Regulatory Setting. The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless such measures are not feasible. The rest of this section will focus on the NEPA-23 CFR 772 noise analysis.

National Environmental Policy Act and 23 CFR 772

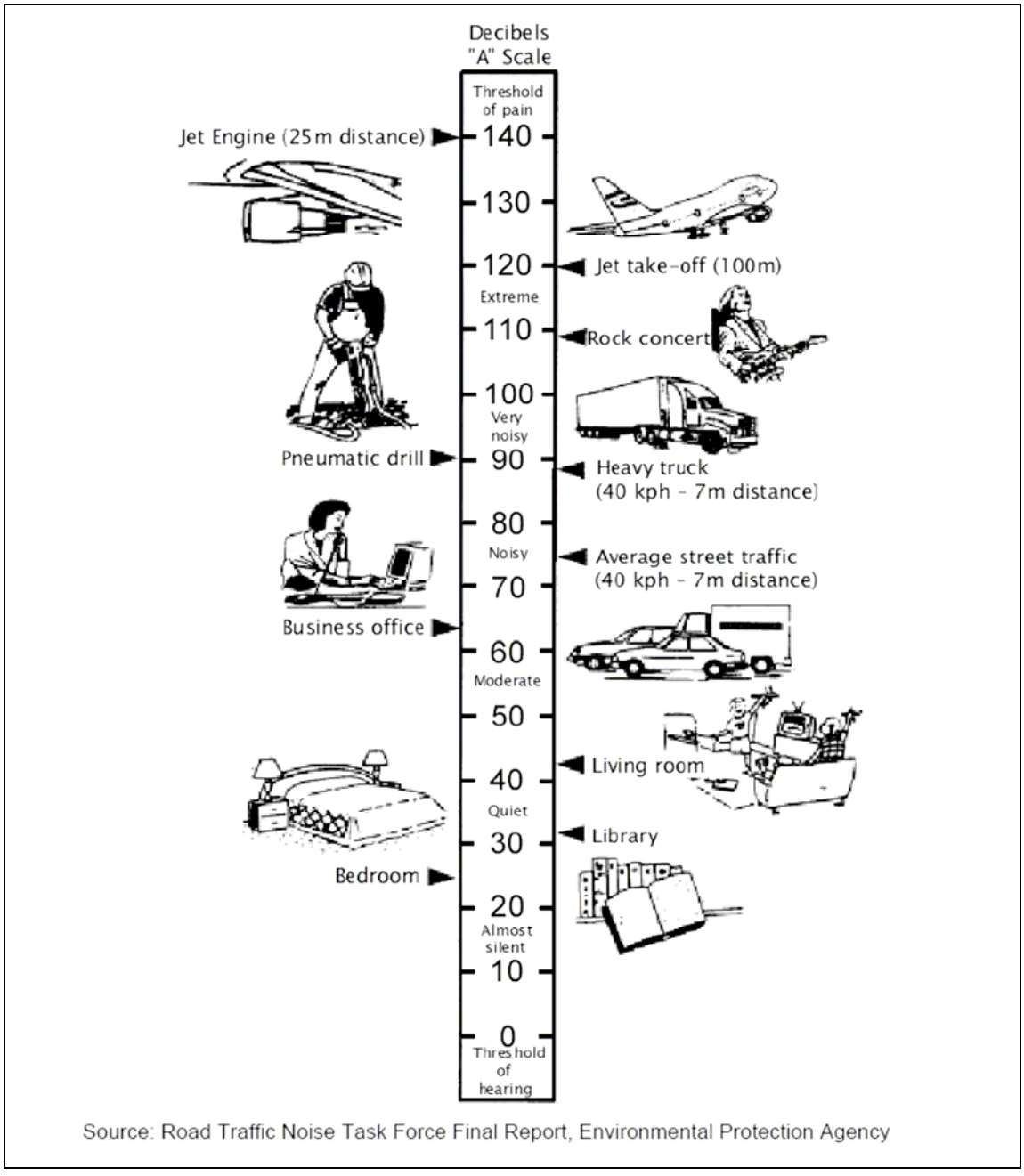
For highway transportation projects with FHWA (and Caltrans, as assigned) involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations contain Noise Abatement Criteria (NAC) that is used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). Table 43 below lists the noise abatement criteria for use in the NEPA-23 CFR 772 analysis.

Table 43. Noise Abatement Criteria for Use in the NEPA-23 CFR 772 Analysis

Activity Category	NAC $L_{eq(h)}$ dBA	Description of Activities
A	57 – Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 – Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 – Exterior	Developed lands, properties or activities not included in Categories A or B above.
D	–	Undeveloped lands.
E	52 – Interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Figure 2-19 below lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise-levels discussed in this section with common activities.

Figure 2-19. Noise Levels of Common Activities



Source: Road Traffic Noise Task Force Final Report, Environmental Protection Agency

In accordance with the Caltrans' *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, August 2006* (TNAP), a noise impact occurs when the future noise level with the project results in a substantial increase in noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the NAC. Approaching the NAC is defined as coming within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and

feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

Caltrans' *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources and safety considerations. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents acceptance, the absolute noise level, build versus existing noise, environmental impacts of abatement, public and local agencies input, newly constructed development versus development pre-dating 1978 and the cost per benefited residence.

Study Methods and Procedures

Selection of Receivers and Measurement Sites. Noise sensitive receivers in the project area that are subject to traffic noise impacts from freeway-generated noise were identified. Noise sensitive areas typically include residences, schools, libraries, churches and temples, hospitals, recreation and sport areas, playgrounds, hotels, motels and parks.

For this project, Caltrans Noise and Vibration Investigation Branch personnel performed a field survey of the entire area within the limits of the project. The survey included visiting the project sites in order to identify land uses within the project limits and to select the noise measurement sites. The entire area within the project limits was acoustically represented by 12 noise measurement site locations and modeled at one location. The noise measurement sites were selected taking into consideration the following general site requirements:

1) Sites were acoustically representative of areas and conditions of interest. They were located at areas of human use.
2) Sites were clear of major obstructions between source and receiver. Microphone positions were more than 9 feet away from reflecting surfaces.
3) Sites were free of noise contamination by sources other than those of interest. Sites were not located near barking dogs, lawn mowers, pool pumps, air conditioners, etc.
4) Sites were not exposed to prevailing meteorological conditions that are beyond the constraints discussed in the Technical Noise Supplement.

The Interstate 405 Corridor already exceeds the Noise Abatement Criteria (NAC), so no noise readings or any long-term noise modeling will be conducted outside of the project study area.

Measurement of Existing Noise Levels. The existing noise environment in the project area was determined by performing short-term (10-minute) and long-term (24-hour) noise monitoring. 24-hour readings were taken at locations representative of residential area within an interchange in order to determine the noisiest hour. Sound level meters were placed at two representative sites (See Table 44 Traffic Noise Measurement and Modeling Results) and were left to run continuously monitoring and recording noise levels for a 24-hour period. The short-term noise levels were recorded within each 24-hour noise monitoring for that particular area. The noise level data collected was then analyzed and adjusted using the 24-hour noise readings to determine the noisiest hour.

Additionally, two community background noise readings were taken within the project limits. Background noise is the total of all noise generated within the community and is measured away from the freeway where freeway traffic noise does not contribute to the total noise level. Background noise levels are typically measured to determine the feasibility (noise reducibility of 5 dBA) of noise abatement and to insure that noise reduction goals can be achieved. The

community background noise limits within the construction limits of the project ranged from 53 to 58 dBA. Noise abatement cannot reduce noise levels below background noise levels.

Short-term noise readings were taken from 03/08/2006 to 03/13/2006 between the hours of 9:55 a.m. and 1:15 p.m., using Metrosonics Model MS3080 sound level meter (serial numbers 3120, 3193 and 3194) placed 5 feet above the ground on a tripod. Measurements were taken for periods of 10 minutes at each location. The short-term monitoring locations are shown in Layouts L-1 through L-3 and Attachments 1 and 2. Long-term noise readings were taken from 3/08/2006 to 3/13/2006 using Medtronics MS3080 sound level (serial numbers 3126 and 3127) place 5 feet above the ground on a tripod. Measurements were taken for 24-hours or more at each location.

During the short-term measurements, Caltrans staff attended the sound-level meter. All readings were recorded only if no significant sound level contamination from sources other than the freeway traffic were present. The noise levels measured during the measurement period were logged in the sound level meter's memory and later downloaded to a personal computer and printed out.

The calibration of the meters was checked before and after the field measurements using the Metrosonics CL 304 calibrators (CL304-7456, CL304-7457, CL304-7458, CL304-7459, and CL304-7460). It was determined that no adjustment in calibration was necessary. Wind speed was observed using a Kestrel 1000 anemometer during the short-term noise monitoring session. No noise readings were recorded when the wind speed exceeded a sustained 10 miles per hour (mph). The temperature varied from approximately 70° - 85° Fahrenheit, and winds were light, having little effect on sound propagation over moderate distances. Traffic on SR-405 near the respective noise-monitoring site was counted simultaneously when noise measurements were being recorded. Caltrans staff performed traffic counts and vehicle classifications manually. Vehicles were classified as automobiles, medium-duty trucks, heavy-duty trucks, and motorcycles. An automobile is defined as a vehicle with two axles and four tires and primarily designed to carry passengers. Small vans and light trucks are in this category as well. Medium trucks include all cargo vehicles with two axles and six tires. Heavy trucks include all vehicles with three or more axles.

Traffic speeds on I-405 were determined by traveling in the flow of traffic and by observing the vehicle speed on the speedometer. The posted speed limit on the mainline Route 405 in the project area is 65 mph.

FHWA Traffic Noise Model 2.5. The Federal Highway Administration's Traffic Noise Model (FHWA TNM) Version 2.5 is FHWA's computer program for highway traffic noise prediction and analysis. The FHWA TNM v. 2.5 computer program was used for the traffic noise analysis presented in this report. In order to develop the analytical model, all relevant topographic features, including roadway lanes, receiver locations, existing sound barriers and existing terrain in the area of potential impact, were digitized into a three-dimensional, scaled reference coordinate system for both existing and future conditions.

Calibration of Noise Model. Using the measured existing noise level data and corresponding traffic counts, the FHWA TNM Version 2.5 was calibrated as necessary in order to correctly predict noise levels at analysis locations.

Future Noise Level Prediction. Analysis based on the traffic volumes and speeds, stated in the 1997 Caltrans Highway Capacity Manual, indicates that maximum noise occurs at Level of Services (LOS) D-E at 85% of capacity and 100% of free flow speed. Using this information, it was determined that a traffic volume of 1950 vehicle/hour/lane would be the worst noise hour traffic volume under the future No-Build design-year (2036) situation. The traffic noise model was analyzed for the above-mentioned traffic volume to predict worse hour noise levels for design-year conditions. The Traffic Noise Analysis Protocol (TNAP) requires that noise level be predicted

using traffic characteristics that will yield the worst hourly traffic noise impact on a regular basis for future conditions.

Identification of Traffic Noise Impacts and Noise Abatement Considerations. Results from computer analysis for future-worst-hour noise levels were used to determine if traffic noise impacts would occur. Traffic noise impacts occur when it is determined that the proposed project causes a substantial noise increase or is predicted traffic noise levels approach or exceed Noise Abatement Criteria. A noise increase is substantial when the predicted noise levels after project completion exceed existing noise levels by 12 dBA - $L_{eq}(h)$. A traffic noise also occurs when predicted noise levels after project completion approach within 1 dBA - $L_{eq}(h)$, or exceed Noise Abatement Criteria. Sound wall insertion losses were calculated using the calibrated traffic noise models developed for each analysis site. According to the protocol, a minimum of 5 dBA noise reduction (insertion loss) must be achievable at impacted receivers in order for the proposed abatement to be considered acoustically feasible. Based on the results of the analysis, preliminary noise abatement was recommended at locations where traffic noise impacts were identified and the abatement measure was found to be feasible. The reasonableness cost allowance for the acoustically feasible noise barriers was calculated following the procedure defined in the TNAP. The reasonable cost allowance is based on a base allowance of $32,000 per benefited residence (i.e. residences that receive at least 5 dBA noise reduction for the sound wall) and additional dollars for the following factors: absolute noise levels, change in noise levels, achievable noise reduction and the date the residences were constructed.

Affected Environment

Land Use and Sensitive Areas. The existing land use within the project limits is comprised of residential, commercial and hotel/motel. Seven residential parcels consisting of 13 residential units are located within the project limits. These parcels are located are south of West Arbor Vitae Street, west and east of South Ash Avenue and north of West 95th Street. Three of the parcels are three-unit residential properties and four parcels include single-family homes.

School, hotel, park, and residential properties outside of the project limits will be indirectly impacted by the construction of this project. The schools include Clyde Woolworth Elementary School, City of Honors High School, and the University of West Los Angeles. The adjacent hotels are the Crowne Plaza, Hampton Inn, Holiday Inn, Motel 6, Westin Inn, and LAX. The Motel 6 located at 5101 West Century Boulevard in the City of Inglewood has an exterior area of frequent human use. Other assorted commercial use properties border the west and southeast edge of the project limits. Many residential units are adjacent to the eastern edge of the project limits. Due to parking, walking, and recreational activities, these properties all have exterior areas of regular human use.

Ashwood Park is within a half of a mile of the eastern border of the project limits. This park is outside of the Project Study Area covered in this environmental document. Therefore, this park was not evaluated using the Traffic Noise Analysis Protocol in the Traffic Noise Study Report prepared for this project. Ashwood Park may experience temporary effects during construction in terms of associated accessibility and/or noise issues. During the construction phases of the project, noise from construction activities will temporarily and intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans Specifications, Section 7-1.011, “Sound Control Requirements.” These requirements state that noise levels generated during construction shall comply with applicable local, state, and federal regulations that all equipment shall be fitted with adequate mufflers according to the manufacturers’ specifications.

Existing Traffic Noise. The noise environment area is dominated by traffic traveling the I-405, on and off-ramps to and from the Arbor Vitae and the Century Boulevard over-crossings, and traffic noise from local streets within the construction limits of the project. No sound walls exist within the project limits. Two sound walls are proposed for noise reduction purposes as part of the

I-405/Arbor Vitae New South Half Interchange Project. Sound wall SW-1 will be adjacent to northbound Route 405 from 0.1 mile north of Arbor Vitae Street to Century Boulevard along Caltrans Right of Way. Sound wall SW-2 will be adjacent to southbound I-405 from 0.15 miles south of Arbor Vitae Street to Arbor Vitae Street along Caltrans Right of Way. For the purposes of the study, the said proposed sound walls have been analyzed as existing sound walls wherever applicable when modeling the traffic noise for this report.

Below, Table 44, Traffic Noise Measurements and Modeling Results, summarizes short-term sound level measurements taken in the project area and the noise modeling results for existing conditions. The measurements and modeling results indicate that existing traffic noise levels for the residential area typically range between 61 and 76 dBA - $L_{eq}(h)$. The 24-hour noise readings were taken at Sites N3A and N3B. For both of these sites, which represents the area between Century Boulevard and Arbor Vitae Street over-crossing, the existing worst-hour noise level was measured to be 69.5 dBA - $L_{eq}(h)$ between 12:37 p.m. and 1:37 p.m. Background noise levels measured at two locations ranged from 53 to 58 dBA - $L_{eq}(h)$.

Table 44. Traffic Noise Measurement and Modeling Results

Table 3. Traffic Noise Measurements & Modeling Results

Receiver	Location	Type of Development	Noise Abatement Category		Field-Measured Noise Level	Modeled Noise Level	Traffic Noise Model Calibration	Existing Worst-Noise-Hour Noise Level		Predicted Worst-Noise-Hour Noise Level	Predicted Noise Level Increase	Impact Type
			dBA - Leq[H]		dBA - Leq[H]	dBA - Leq[H]	dBA - Leq[H]	dBA - Leq[H] m=modeled f=measured d=24-hour reading		dBA - Leq[H]	dBA - Leq[H]	E=Exceed A=Approach
SITE N1	5101 W Century Blvd.	Motel	B	(67 dBA)	66	70, 61**	4	67	f	62**	-	None
SITE N1A***	5101 W Century Blvd.	residential	B	(67 dBA)	48			49	f			None
SITE N2	9825 Redfern Ave.	residential	B	(67 dBA)	61	64	3	63	f	64	1	None
SITE N3	9732 Oceangate Ave.	residential	B	(67 dBA)	67	68	1	69	f	69	0	E
SITE N4	9618 Oceangate Ave.	residential	B	(67 dBA)	68	66	-2	68	f	69	1	E
SITE N5	9510 Oceangate Ave.	residential	B	(67 dBA)	64	64	0	66	f	66	0	A
SITE N6	704 Arbor Vita Ave.	residential	B	(67 dBA)	76	74	-2	76	f	-		
SITE N6A	Model site	residential	B	(67 dBA)	-	66	-2		m	72	-	E
SITE S1	5209 94th St.	residential	B	(67 dBA)	67	66, 63**	-1	68	f	67**	-	E
SITE S2	5200 Pardee St.	residential	B	(67 dBA)	64	64, 59**	0	65	f	62**	-	None
SITE N8*	444 Bckthorn St.	residential	B	(67 dBA)	58	NONE			f			
SITE N9*	4928 96th St.	residential	B	(67 dBA)	53	NONE			f			
S N3A****	9732 Oceangate Ave.	residential	B	(67 dBA)	70				d			
S N3B****	9732 Oceangate Ave.	residential	B	(67 dBA)	70				d			

*Community Noise Background Level
** Modeled Noise Level with Local Traffic Filtered Out
*** Interior Noise Reading
S N3A**** 24 hour Noise Reading on 03/08/06
S N3B**** 24 hour Noise Reading on 03/13/06

Potential Impacts

Future Noise Environment. Future noise levels were predicted using traffic characteristics that yield the worst hourly traffic noise impact on a regular basis. As previously described, 1950 vehicles per hour per lane at 65 mph for the year 2036 were used as the future traffic volume. The percentages of cars, medium trucks, and heavy trucks use for modeling the present were assumed to remain the same in the future as of today. Predicted increases in traffic noise under

design-year conditions relative to existing conditions typically are in the range of 0 - 1dBA. These increases are attributed to the addition of the proposed two mixed flow lanes and the consequential increases in traffic volumes.

Traffic Noise Environment. The Traffic Noise Measurements and Modeling Results Table shows the predicted traffic noise levels approach/exceed the Noise Abatement Criteria (NAC) of 67 dBA - L_{eq}(h) for Activity Category B. The Activity Category B land uses within the project limits including residential properties and the Motel 6, Site N1, adjacent to the southeastern corner of the project limits. It was predicted that the future Route 405 New South Half Interchange Improvement project would impact the residential areas adjacent to the northbound 405 freeway. Based on predicted noise levels, the Motel 6 (N1) adjacent to the project limits will not face substantial freeway traffic noise impact as its Field-Measured Noise Level (66 dBA - L_{eq}(h)) will not be raised substantially with the Modeled Noise Level (61 dBA - L_{eq}(h)) and the Predicted Worst-Hour-Noise Level (62 dBA - L_{eq}(h)) when the local traffic is filtered out. The noise level is substantially higher (70 dBA - L_{eq}(h)) without the local traffic being filtered out. Nearby businesses that are included in Activity Category C include commercial businesses that have exterior frequent human use and therefore were considered for potential freeway traffic noise impacts.

It was predicted that the future construction of the new south half interchange consisting of the northbound Interstate 405 off-ramp to Arbor Vitae Street and southbound I-405 on-ramp to Arbor Vitae Street would impact all residential areas represented by Sites N3, N4, N5, N6A and S1 along northbound and southbound I-405. The residential area represented by Site S2 along southbound I-405 is not impacted by freeway traffic noise from this new south half interchange project. A motel development within the project limits has an exterior area of frequent human use. No traffic noise has been predicted at this motel, 62 dBA - L_{eq}(h), as the future predicted noise level is below the state/federal criteria at this location. Therefore, no noise abatement has been considered for this motel.

Abatement

Preliminary Noise Abatement Analysis. FHWA regulations (23CFR772) state that noise abatement will usually be necessary where noise impacts are predicted, only where frequent human use occurs, and where a lowered noise level would be of benefit. As a matter of practice, abatement is considered for places where people are exposed to highway noise for at least 1 hour on a regular basis. Potential noise abatement measures include:

- Avoiding the project impact by using design alternatives, such as altering the horizontal and vertical alignment of the project.
- Constructing noise barriers
- Acquiring property to serve as a buffer zone
- Using traffic management measures to regulate types of vehicles and speed
- Acoustically insulating public use or nonprofit institutional structures

Caltrans has prepared a Noise Abatement Decision Report (NADR), in consideration of the topography, land use, right-of-way, and existing traffic. It has been determined that construction of sound walls would be the appropriate form of noise abatement measure for the impacted area within the project limits. Sound walls have been considered and/or recommended at the following locations for various activity categories within the project limits.

Residential Areas. The impacted residential areas have been considered for noise abatement. They are represented by the following sites: N3, N4, N5, and N6A located east of the Interstate 405 freeway and Site S1 located west of the Interstate 405 freeway. Sites N3, N4, N6A, and S1 are considered impacted because the predicted traffic noise levels exceed the Noise Abatement Criteria (NAC) of 67 dBA - L_{eq}(h). Site N5 is also impacted because the predicted traffic noise level approaches the NAC of 67 dBA - L_{eq}(h). Sound wall SW-1 will provide 5-10 dBA noise reduction for the residential areas represented by Sites N3, N4, N5, and N6A. Sound wall SW-2

provides 5 dBA noise reduction for the residential area represented by Site S1. Both sound walls have been proposed along state-owned right of way. All impacted residential areas considered for abatement are listed in the Traffic Noise Measurements and Modeling Results Table 49 on the previous page.

Hotels/Motels. The Motel 6 is represented by Site N1 located adjacent to the project limits. No noise impacts were identified at this location. In addition, a Modeled Noise Level Site N1 located at the pool (an area of frequent human use) in the motel's property did not indicate any noise impacted from predicted noise levels. The other adjacent hotels are the Crowne Plaza, Hampton Inn, Holiday Inn, Westin Inn, and LAX.

Schools. Schools located outside of the project limits will be indirectly impacted by the construction of this project. These include Clyde Woolworth Elementary School, City of Honors High School, and the University of West Los Angeles.

Parks. One park located outside of the project will be indirectly impacted by the construction of this project. Ashwood Park is within a half of a mile of the eastern border of the project limits.

Commercial and Industrial Developments. There are several commercial developments and parking structures within the project limits. In addition, as mentioned previously in the report, there is a motel development adjacent to the southeastern corner of the project limits that has an exterior area of frequent human use. No traffic noise impact has been predicted at this motel as the future predicted noise level is below the state/federal criteria at this location. Therefore, no noise abatement has been considered for this motel.

Undeveloped Lands. There are no undeveloped land parcels within the project study area.

Noise Abatement Feasibility and Reasonable Cost Allowances. The recommended sound walls considered for noise reduction have been analyzed for feasibility based on the achievable noise reduction. The insertion loss for the considered sound wall SW-1 is 9 decibels (dBA) and therefore acoustically feasible. The insertion loss for the considered sound wall SW-2 is 5 decibels (dBA) and is also acoustically feasible. These two sound walls were further evaluated to estimate the reasonable cost-allowance required to determine the overall reasonableness.

For any sound wall to be considered reasonable from a cost perspective, the total estimated cost of the sound wall must be equal to or below the total cost-allowance calculated for that wall. The cost calculations of the sound wall should include all items appropriate and necessary for the construction of the sound wall, such as traffic control, drainage modification, and retaining walls. Preliminary information on the physical characteristics of potential abatement measures (such as physical location, length, and height of sound walls) has been evaluated. The final design must meet the requirements of Chapter 1100 of the Highway Design Manual. In particular, the minimum and maximum height requirements must be in accordance with Section 1102.3 of the manual.

Based on the studies performed, Caltrans intends to incorporate noise abatement measures in the form of sound walls with the aforementioned lengths and average heights of 14 feet before all other construction activities are begun. Sound walls now exist on both the west and east sides of Interstate 405 north of the Arbor Vitae Street Overcrossing. The following is a discussion on recommended noise abatement.

Proposed Acoustically Feasible Sound Walll for Build Alternative:

Northbound I-405

Sound wall SW-1 provides 5-10 decibels (dBA) noise reduction for the residential areas represented by Sites N3, N4, N5 and N6A. The proposed sound wall will be built along state-owned right of way.

Southbound I-405

Sound wall SW-2 provides 5 dBA noise reduction for the site represented by Site S1. The proposed sound wall will be built along state-owned right of way.

Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of barriers at: northbound I-405 and southbound I-405, with a length and average height of 2,445 feet and 14 feet for Sound Wall SW-1 and 814 feet and 14 feet for Sound Wall SW-2. Calculations based on preliminary design data indicate that the barriers will reduce noise levels by 5 to 10 dBA for many residences at a cost to be determined. If during final design conditions have substantially changed, noise abatement may not be necessary. The final decision of the noise abatement will be made upon completion of the project design and the public involvement processes.

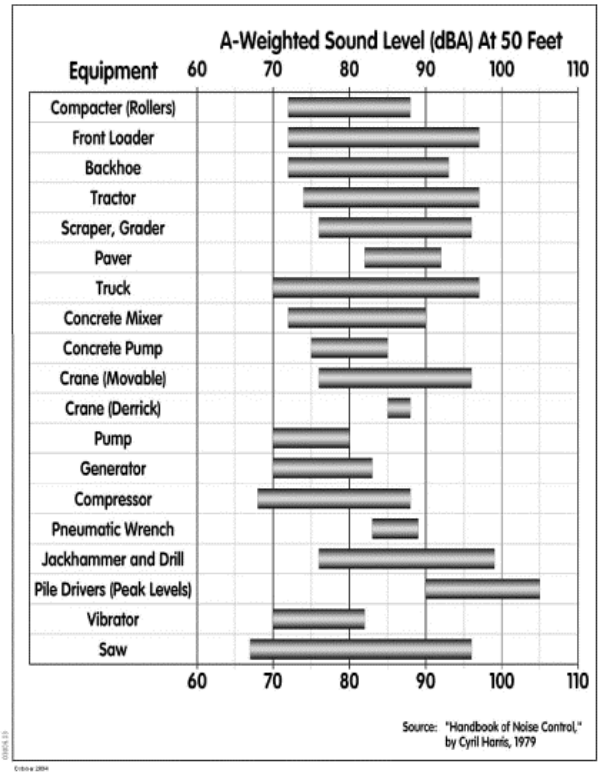
Construction Noise. During the construction phases of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans standard specifications, Section 7-1.01I, Sound Control Requirements (7). These requirements state that noise levels generated during construction shall comply with applicable local, state, and federal regulations and that all equipment shall be fitted with adequate mufflers according to the manufacturers' specifications.

Table 45 on the next page summarizes typical noise levels produced by construction equipment commonly used on roadway construction projects. As indicated, equipment involved in construction is expected to generate noise levels ranging from 70 to 90 dBA at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of about 6 dBA per doubling of distance. No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans standard specifications and would be short-term, intermittent, and dominated by local traffic noise. Implementing the following measures would minimize temporary construction noise impacts:

- All equipment shall have sound-control devices no less effective than those provided on the original equipment. No equipment shall have an unmuffled exhaust.
- No pile driving, jackhammer and drill or trucks using backup beepers shall be permitted during nighttime hours (9pm to 7am) to minimize disturbance for neighboring residents. As an alternative to pile driving, please use cast and drill hole method during nighttime hours.
- The "backing-up beeping alarm" of trucks be minimized to the maximum extent or eliminated altogether during nighttime hours (9pm to 7am).
- Simultaneous equipment idling noise needs to be minimized to reduce the cumulative construction noise.
- The two proposed sound walls needs to be constructed before all other construction activities begin.
- Caltrans will make it clear to the public during construction that if they feel that the noise levels are excessive, the agency will take noise readings during construction to ensure that noise levels do not exceed 86 dBA at homes located 50 or more feet from the construction zone.
- Caltrans will take action to ensure that noise levels just below 86 dBA will not remain constant.
- As directed by the Engineer, the contractor shall implement appropriate additional noise mitigation measures including, but not limited to, changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, or installing acoustic barriers around stationary construction noise sources.

Table 45. Construction Equipment Noise Levels

Figure 8-1. Construction Equipment Noise Levels



Concluding Comments about Noise. Existing noise levels were recorded at 13 locations and modeled at 1 location that represented the noise sensitive area along the eastern edge of Interstate 405 within the project limits. The existing noise levels recorded at various residences ranged between 61 and 76 decibels (dBA). The future predicted worst hour noise levels for these locations were calculated using The Federal Highway Administration's Traffic Noise Model (FHWA TNM) Version 2.5.

The future noise levels after the completion of the project are expected to increase by 1 dBA. Several areas of land use category B have been identified as being impacted by freeway noise. Noise reduction measures in the form of sound walls have been recommended for the impacted areas. Two sound walls have been proposed. Sound wall SW-1 with a height of 14 feet and length of 2,445 feet will provide 5-10 dBA noise reduction for the residential areas represented by Sites N3, N4, N5, (residential sites) and N6A (model site) east of Interstate 405. Sound wall SW-2 with a height of 14 feet and length of 814 feet will provide 5 dBA of noise reduction for the site represented by Site S1 (residential) west of Interstate 405. The Caltrans Noise Decision Abatement Report (NADR) will be available for review at a date to be determined.

Under CEQA, the increases in noise levels at the nine sites measured in this project are not substantial. A noise increase is substantial when the predicted noise levels after project completion exceed existing noise levels by 12 dBA - $L_{eq}(h)$. This will not occur with Build Alternative 2 of the Proposed New South Half Interchange Project. None of the future noise levels with the Build Alternative will exceed existing noise levels more than 5 dBA - $L_{eq}(h)$, the result for the Model Site N6A. Sites N3 and S1 will exceed existing noise levels by 1 dBA - $L_{eq}(h)$ in the Model Noise Level versus the Field-Measured Noise Level. Site N4 will exceed Existing Worst-Hour Noise Level by 1 dBA - $L_{eq}(h)$ in the Predicted Worst-Hour Noise Level after the construction of the Build Alternative.

2.3 BIOLOGICAL ENVIRONMENT

The Biological Environment section of the EA/IS is broken into the following subsections:

- Natural Communities
- Wetlands and Other Waters
- Plant Species
- Animal Species
- Threatened and Endangered Species
- Invasive Species

General Description of the Existing and Physical Conditions

Study Area. The study area has Interstate 405 in the center and extends roughly from Century Boulevard in the south to Arbor Vitae Street in the north, and extends west to La Cienega Boulevard and east to South Ash and South Ocean Gate Avenues, in the City of Inglewood Los Angeles County. The project's study area does not include any water bodies, wetlands or sensitive natural areas within its project limits. The Pacific Ocean is nearly four miles to the west and thirteen miles to the south. The Los Angeles River is over seven miles to the East. Also, the study area is heavily urbanized as is the surrounding communities. Current land uses consist of residential, commercial, industrial, and office within the project's study area.

Biological Conditions in the Biological Study Area (BSA). The surveyed BSA for this project is made up of no natural community habitats of concern or value. A variety of mature highway landscape trees and shrubs exist within the BSA along the western and eastern edges of Interstate 405 made up of ruderal and non-native vegetation.

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value. The environmental setting is urbanized or disturbed with no native biological resources within the project limits or directly adjacent to the project limits. Also, there are no sensitive species or habitats within or directly adjacent to the project limits. The plant species that were identified in the project area are listed later in this chapter in subsection 2.3.3 Plant Species.

The only animals and/or evidence of animals noted during field surveys were species common to urban development.

Biological Study. The basis for this biological discussion is the project's Natural Environmental Study Report (NESR), dated November 8, 2007.

2.3.1 NATURAL COMMUNITIES

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes

information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value. This includes 4.258 acres of trees and brush.

Crows (Corvus corvidae) and Mourning Dove (Zenaida macroura) were observed within the project study area. These species are common to urban development.

Affected Environment

Natural Communities of Special Concern. The environmental setting is urbanized or disturbed with no native biological resources within the project limits or directly adjacent to the project limits. Again, there are no sensitive species or habitats within or directly adjacent to the project limits.

The project's setting consists almost entirely of non-native landscape plants. No natural plant habitat of value or concern exists within the project limits. A variety of mature highway landscape trees and shrubs consisting of the nine species including Eucalyptus and Southern Magnolia exist within the project site.

The site was evaluated for value as wildlife habitat. The only animals and/or evidence of animals noted during field surveys were species common to urban development. Crows and Mourning Dove were observed within the project site. The project area provides extremely poor habitat to most wildlife species because it is void of native vegetation, and is highly disturbed from human activity and is adjacent to heavy urban development. Homeless encampments are present on the project site.

Oak woodlands are an important biological resource in California that provide habitat for numerous wildlife species. These trees provide shelter and nesting sites for birds and mammals, basking sites for lizards, food source for numerous species, as well as a shade source for creeks and streams which influences water temperatures and hydrology patterns. Oaks also filter pollution, decrease erosion and create oxygen and remove carbon dioxide from the atmosphere.

Potential Impacts

Project Impacts. The project impacts are minimal to biological resources due to the limits of the project's study area and its urbanized, built out setting. Removal of non-native vegetation will occur with this project. Also, no oak trees within the project study area will be removed as part of the I-405/Arbor Vitae New South Half Interchange Project. No impacts will occur to drainages or 'Waters of the United States.' No state or federally listed threatened/endangered species will be impacted by this project. In addition, no indirect impacts from noise to nesting birds or other biological resources will result from this project.

Cumulative Impacts. Impacts from Built Alternative 2 to the non-native vegetation along Interstate 405 would be limited to within the project study area. A large number of mature trees are likely to be removed; a pre-construction survey will determine if mitigation measures are needed.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and Minimization Efforts. Clearing and grubbing of vegetation should be performed between September 1 and the end of February, to minimize impacts to nesting birds. Because a large number of mature trees are likely to be removed, a pre-construction survey must be performed if clearing and grubbing can not occur during this period. The result of the pre-construction survey will determine if mitigation measures are needed. The contractor will follow all pollution and litter laws and regulation.

Oak Woodland Replacement. California is losing its oak woodlands at an alarming rate to land development and conversion to agriculture. Since 1945 over one million acres of oak woodland has been lost in California. A 2001 estimate shows the 30,000 acres of oaks per year are lost statewide, compared to only 60,000 acres for an entire decade in the mid-1980's to mid-1990's. Southern oak woodlands once covered much of the foothills and plains of the Southern California ecoregion and the Los Angeles Basin was once noted for their vast savannas of coast live oak, and valley oak. Today, more than 85 percent of coastal sage scrub communities, which include oak woodlands, have been lost to urban and agricultural development. The vast majority of oak savannas in the Southern California region have been destroyed.

As noted on the prior page, no oak trees within the project study area will be removed as part of the I-405/Arbor Vitae New South Half Interchange Project. However, should the removal of oak trees be necessary due to the 405/101 Interchange Project, the loss will be mitigated offsite through replacement planting. Based on the total amount of oak trees impacted and available on-site locations, favorable areas within the right of way will be selected by the District Biologist and Landscape Architect. Any required replacement beyond the space available in the right of way will be planted off-site in coordination with an agency or organization that has yet to be determined.

California Senate Resolution No. 17-Relative to Oaks, adopted by the California Legislature, requests that state agencies assess their impacts to oak woodlands containing blue, Engleman, valley or coast live oak species and to preserve and protect to the maximum extent feasible or provide replacement plantings when these species are removed. By offsetting the impacts to oak woodlands as described above, Caltrans will also conform to the spirit of Senate Concurrent Resolution No. 17.

2.3.2 WETLANDS AND OTHER WATERS

General Regulatory Setting. Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Clean Water Act (33 U.S.C. 1344) is the primary law regulating wetlands and waters. The Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of hydrophytic (water loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the Environmental Protection Agency (EPA).

The Executive Order for the Protection of Wetlands (E.O. 11990) also regulates the activities of federal agencies in regards to wetlands. Essentially, this executive order states that a federal agency, such as the Federal Highway Administration, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Game (CDFG) and the Regional Water Quality Control Boards (RWQCBs). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission) may also be involved. Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially

change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If the DFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or by the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications in compliance with Section 401 of the Clean Water Act. Please see the Water Quality and Storm Water Runoff Section 2.2.2 of this Environmental Assessment/Initial Study for additional details.

Project-Specific Regulatory Requirements

The Federal Clean Water Act and California Fish and Game Code 1602. A Section 401 of the Clean Water Act Water Quality Certification from the California Regional Water Quality Control Board (RWQCB) will not be required since proposed construction activities will not result in any impacts to drainages or "Waters of the United States." A Section 404 of the Clean Water Act permit from the US Army Corps of Engineers (USACE) will not be needed since proposed construction activities will not result in the discharge of dredged or fill material into waters of the United States. A 1602 Streambed Alteration Agreement from the CDFG will not be necessary since proposed construction activities are not anticipated to divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake.

The proposed project is not located within the coastal zone. Therefore, coordination with the California Coastal Commission will not be required.

Wetlands and Other Waters Coordination Summary. No impacts will occur to an area designated as a retention basin. Thus, the Army Corps of Engineers do not have jurisdiction over this project. Neither a Section 404 Nationwide Permit nor a Section 401 Water Quality Certification will be required because there are no impacts to a retention basin greater than 0.5 acres. Also, Army Corps regulation 33 USC 408 states that there shall be no temporary or permanent alteration, occupation or use of any public works including but not limited to levees, sea walls, bulkheads, jetties and dikes for any purpose without the permission of the Secretary of the Army. Under the terms of 33 USC 408, any proposed modification requires a determination by the Secretary that such proposed alteration or permanent occupation or use of a Federal project is not injurious to the public interest and will not impair the usefulness of such work. The Corps' decision on any permit request would occur after the Section 408 determination but prior to determining whether any easement may be approved. A Section 408 determination is not necessary for this project because there will be no use or impacts to wetland or other water body. No coordination will be needed with California Department of Fish and Game (CDFG) regarding Fish and Game Code 1600 since the project's construction activities are not anticipated to divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake.

Wetlands Delineation and Field Review. Caltrans is required to delineate wetlands, identify impacts and evaluate avoidance alternatives in the environmental phase of project development, which is to be performed upon selection of a preferred alternative and by the time the final environmental document is circulated. Executive Order 11990, "Protection of Wetlands," May 24, 1977, requires federal agencies to make a wetlands finding which determines whether or not there is a practicable alternative to construction located in wetlands, whether all practicable measures to minimize harm to the wetlands have been included in the federal action, taking into account all economic, environmental, and other pertinent factors that have a bearing on practicability. The Executive Order does not apply to this project since there are no wetlands within its project study area.

When wetlands may be impacted, Caltrans is required to obtain a Section 404 prior to advertisement for construction. Executive Order and Section 404 permit program of the Clean Water Act of 1977 play an important part in the preliminary engineering phase. Timing of the field review should be arranged usually in winter, spring, or early summer to identify wetlands plant species. Neither Executive Order 11990 nor Section 404 of the Clean Water Act of 1977 are relevant to this project since there are no wetlands within its project study area.

Agency Coordination. Caltrans has not conducted any interagency coordination regarding this project's impacts on wetlands since none exist within its project study area.

Affected Environment

No wetland delineation has been conducted for the I-405/Arbor Vitae Street New South Half Interchange Project because no wetlands are present within its project study area. The 'No Net Loss Policy' is not relevant to this project. No Section 404 permitting process will be necessary during the project's Plans Specifications and Engineering Phase (PS&E) of the project.

The project area of build Alternative 1 is located between Century Boulevard and Arbor Vitae Street and includes consisting of Interstate 405 and land west and east of the freeway. No wetlands, as defined by State and Federal definitions, exist within the project study area.

The Least Environmentally Damaging Practicable Alternative has not been determined for the I-405/Arbor Vitae Street New South Half Interchange Project (LEDPA).

The three parameters necessary for an area to be considered a federal jurisdictional wetland are hydric soils, hydrophytic vegetation, and hydrology. All three parameters must be met according to the Army Corps of Engineers Wetland Delineation Manual for the area to be designated a Federal Wetland. Again, as noted on the previous page, no wetlands, as defined by State and Federal definitions, exist within the project study area.

Potential Impacts

No wetland delineation has been conducted for the I-405/Arbor Vitae Street New South Half Interchange Project because no wetlands are present within its project study area.

The environmental setting is urbanized or disturbed with no native biological resources within the project limits or directly adjacent to the project limits. The project's setting consists almost entirely of non-native landscape plants. No natural plant habitat of value or concern exists within the project limits. A variety of mature highway landscape trees and shrubs consisting of the nine species including Eucalyptus and Southern Magnolia exist within the project site.

Army Corps of Engineers regulation 33 CFR 330 requires an Individual Permit for any affected acreage greater than 0.50 acres. However, no amount of acreage will be affected by this project. Therefore, Caltrans does not need to prepare an application and request an Individual Permit during the Section 404 permitting process at the PS&E Phase of this project.

Determination of Least Environmentally Damaging Practicable Alternative (LEDPA). In an analysis of key balancing factors, Caltrans has not selected a "Preferred Alternative" nor the Least Environmentally Damaging Practicable Alternative, or LEDPA. A table will illustrate this analysis and provide a comparison to previously considered build alternatives when the "Preferred Alternative" and LEDPA are selected.

Concurrence with the U.S. Army Corps of Engineers on the LEDPA decision does not need to occur. There will be no Section 404 permitting process during the PS&E phase of this project because no wetlands will be impacted by this project.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, nor mitigation measures are necessary in regards to wetlands since no wetlands will be impacted by this project.

Wetlands Only Practicable Finding

Executive Order 11990 mandates that an agency such as Caltrans avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands, and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. No wetlands will be affected by Alternative 2, the project's only build alternative. Therefore, no mitigation will be provided to mitigate impacts to wetlands. No coordination will be necessary with the US Army Corps of Engineers, California Department of Fish and Game, and Regional Water Quality Control Board during the permitting phase of the project because there will be no net loss of wetlands.

Table 46. Wetlands Only Practicable Finding Pursuant to Executive Order 11990

Balancing Factors	No Build Alternative 1	Alternative 2	Alternative with Advantage
Acreage of State and Federal Wetland Destruction	ZERO Acres	ZERO Acres	Neither
Encroachment Upon the Floodplain and Flood Control Basin	ZERO Enchroachment	no significant enchroachment	No Build Alternative 1
Project Purpose and Need	FAILS to meet the Project's Purpose and Need	BEST meets the Project Purpose and Need	Alternative 2
Biological Impacts	ZERO Enchroachment	no significant biological impacts	No Build Alternative 1
Encroachment Upon Wetlands	ZERO Enchroachment	ZERO Enchroachment	Neither
Least Impact to Section 4(f) Resources	ZERO Impacts to Section 4(f) Resources	ZERO Impacts to Section 4(f) Resources	Neither
Project Impact Footprint	ZERO Impact Footprint	37.2 Acres	No Build Alternative 1
Cost (Socioeconomic Considerations)	Not a factor: $0	$10.8 million for Right of Way/Relocation Costs, $278 million total cost	No Build Alternative 1

2.3.3 PLANT SPECIES

Regulatory Setting. The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) share regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; there are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Also, please refer to the Threatened and Endangered Species section in this document for additional information regarding these species. No threatened or endangered plant species were found within the project study area.

This section of the document discusses all the other special-status plant species, including CDFG fully protected species and species of special concern, USFWS candidate species, and non-listed California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at United States Code 16 (USC), Section 1531, et. seq. See also 50 CFR Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et. seq. Caltrans projects are also subject to the Native Plant Protection Act, found at Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act, Public Resources Code, Sections 2100-2117.

Federal Endangered Species Act Consultation Summary. Within the project study area, there are no Federal endangered or threatened species; therefore, informal consultation with Fish and Wildlife Service will not be required for this project. Information from the Natural Environmental Survey (NES) by Christopher Stevenson confirms this finding. The project site was evaluated and the only animals and/or evidence of animals noted during field surveys were common to urban development were the Crows and Mourning Dove. There are no regional sensitive species of concern within or directly adjacent to the project limits.

California Endangered Species Act Consultation Summary. Within the project study area, there are no State endangered or threatened species; therefore, informal consultation with the California Department of Fish and Game (CDFG) will not be required for this project. Information from the Natural Environmental Survey (NES) by Christopher Stevenson confirms this finding. The project site was evaluated and the only animals and/or evidence of animals noted during field surveys were common to urban development were the Crows and Mourning Dove. There are no regional sensitive species of concern within or directly adjacent to the project limits.

Affected Environment

Special Status Plant Species. The proposed project is currently not expected to affect, or impact, any special status plant species listed in the California Natural Diversity Database (CNDDB) or in the USFWS species list as no natural plant habitat of value or concern exists within the project limits.

Potential Impacts

Project Impacts. The proposed project is not expected to affect, or impact, any threatened or endangered plant species. This is because no such plants exist within the project area.

Cumulative Effects. Cumulative effects will not result from the proposed project area because no threatened or endangered plant species exist within the project area.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and Minimization Efforts. Avoidance and minimization efforts are not proposed at this time due to the absence of threatened or endangered species from the project impact area. Future re-evaluation of the project should consider any new occurrence information that may be available for any State or Federal listed threatened or endangered plant species.

Compensatory Mitigation. Compensatory mitigation is not proposed for any threatened or endangered plant species because no threatened or endangered plant species will be affected by the proposed project.

2.3.4 ANIMAL SPECIES

Regulatory Setting. Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration (NOAA) Fisheries and the California Department of Fish and Game (CDFG) are responsible for

implementing these laws. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the State or Federal Endangered Species Act (ESA). Species listed or proposed for listing as threatened or endangered are discussed later in this chapter. All other special-status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Quality Act
- Sections 1600-1603 of the Fish and Game Code
- Sections 4150 and 4152 of the Fish and Game Code

Federal Endangered Species Act Consultation Summary. Within the project study area, there are no Federal endangered or threatened species; therefore, informal consultation with Fish and Wildlife Service will not be required for this project. Information from the Natural Environmental Survey (NES) by Christopher Stevenson confirms this finding. The project site was evaluated and the only animals and/or evidence of animals noted during field surveys were common to urban development were the Crows and Mourning Dove. There are no regional sensitive species of concern within or directly adjacent to the project limits.

California Endangered Species Act Consultation Summary. Within the project study area, there are no State endangered or threatened species; therefore, informal consultation with the California Department of Fish and Game (CDFG) will not be required for this project. Information from the Natural Environmental Survey (NES) by Christopher Stevenson confirms this finding. The project site was evaluated and the only animals and/or evidence of animals noted during field surveys were common to urban development were the Crows and Mourning Dove. There are no regional sensitive species of concern within or directly adjacent to the project limits.

Affected Environment

The project site was evaluated for value as wildlife habitat. The environmental setting is urbanized or disturbed, with no native biological resources within the project limits or directly adjacent to the project limits. The only animals and/or evidence of animals noted during field surveys were species common to urban development. Crows and Mourning Dove were observed within the project study area. The project site provides extremely poor habitat to most wildlife species because it is void of native vegetation, and is highly disturbed from human activity and is adjacent to heavy urban development. Homeless encampments are also present on the project site.

Potential Impacts

Although there may be temporary disruptions or impacts during the construction phase of the project, no permanent direct or indirect impacts are anticipated to occur to either the Crows or Mourning Dove as a result of this project.

Avoidance, Minimization, and/or Mitigation Measures

Standard avoidance and minimization practices will be followed as outlined in the Migratory Bird Treaty Act.

2.3.5 THREATENED AND ENDANGERED SPECIES

Regulatory Setting. The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC), Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration, are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an incidental take permit. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code, Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The California Department of Fish and Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For projects requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Regional Federal and State Listed Species. The proposed project is currently not expected to affect, or impact, any regional sensitive animal species listed in the California Natural Diversity Database (CNDDB) or the U.S. Fish and Wildlife Service species list. The only animals and/or evidence of animals noted during field surveys were species common to urban development. Crows and Mourning Dove were observed within the project study area.

Regional Federal and State Listed Species with Highest Probability of Occurrence

No regional sensitive animal species listed in the California Natural Diversity Database (CNDDB) or the U.S. Fish and Wildlife Service species list exist within the project study area. Therefore, the proposed project is not expected to affect any regional special status animal species.

Potential Impacts

Project Impacts. The project site was evaluated for value as wildlife habitat for animal species, including threatened and endangered species. Due to the lack of suitable habitat found within the project site as well as directly adjacent to the project area, it is not likely that the project's build alternative would have a direct or an indirect impact on a threatened or endangered species.

Cumulative Effects. Cumulative effects will not result from the proposed project area because no threatened or endangered animal species exist within the project area.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and Minimization Efforts. Standard avoidance and minimization practices will be followed as outlined in the Migratory Bird Treaty Act.

Compensatory Mitigation. Compensatory mitigation is not proposed for any threatened or endangered animal species because no threatened or endangered animal species will be affected by the proposed project.

2.3.6 INVASIVE SPECIES

Regulatory Setting. On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued August 10, 1999 directs the use of the state's noxious weed list to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project.

Avoidance, Minimization, and/or Mitigation Measures. In compliance with the Executive Order on Invasive Species, E.O. 13112, and subsequent guidance from the Federal Highway Administration, the landscaping and erosion control included in the project will not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

2.3.7 BIOACOUSTICS AND HIGHWAY NOISE IMPACTS TO THE BIOLOGICAL ENVIRONMENT

Noise. In July 2008, a noise study was conducted to determine the traffic noise impacts that the proposed Interstate 405/Arbor Vitae Street New South Half Interchange may have upon the entire area within the project limits, including any wildlife inhabitants. This study addresses increases in traffic noise resulting from the project as well as noise during construction that may cause an adverse impact on the wildlife in the area.

The Federal Highway Administration (FHWA) and Caltrans policies do not address noise impacts on wildlife species. However, the United States Endangered Species Act prohibits activities that would adversely affect habitats and the survival of endangered species. The Natural Environmental Study was done to specifically address impacts to such species that may occur from this project. No endangered or threatened species have been found within the project study area.

All relevant studies were done to determine existing and future noise and sound levels before, during and after construction of the project's build alternative. A field noise investigation was conducted to determine existing noise levels and gather information to develop and calibrate the noise model that was used for predicting future traffic and construction noise levels. Existing noise levels were recorded at 10 locations within and adjacent to the project study area. The analysis locations are acoustically representative of the areas of concern. The existing ambient noise levels recorded ranged from 61 to 76 decibels (dBA). Additionally, sound level readings, pertinent field data, and construction equipment noise emission characteristics were used to develop the noise model for the area. The noise model was then used to predict expected traffic noise levels as well as equipment noise during construction activities.

The traffic and construction noise analysis indicated that construction activities, particularly the use of impact pile drivers, would substantially increase noise levels in and adjacent to the project study area. These increases, from 10 to 25 dBA, would be intermittent and temporary. Construction and noise abatement measures can effectively reduce the noise impact during construction activities, and can consist of noise-suppressing sound blankets, use of alternative equipment, and ensuring that all of the equipment is in good working order.

Based on the Traffic Noise Study Report, it has been determined that the ambient noise levels in the project study area will be 0 to 1 dBA due to traffic noise from the new freeway connector and on/off ramps and may experience temporary but substantial noise increase during the construction phase of the project. The levels of construction noise will depend on the type of equipment being used and can reach very high levels when equipment with high noise signatures are used. Construction noise abatement measures will be necessary if such equipment is used in order to reduce expected construction noise levels in the area. The final decision to implement construction noise abatement will be made upon completion of the project design and requirements based on Caltrans standard specifications, Section 7-1.01I, Sound Control Requirements. These requirements state that noise levels generated during construction shall comply with applicable local, state, and federal regulation.

Bioacoustics Report. No bioacoustics report was composed for this project because no threatened or endangered bird species have been found within the project study area. No laboratory data was collected to make interim guidelines for determining effects.

Avoidance, Minimization, and/or Mitigation Measures. The traffic and construction noise analysis indicated that construction activities, particularly the use of pile drivers, could significantly increase noise levels in the area. Construction noise abatement measures can effectively reduce the noise impact during construction. The abatement measures will consist of noise-suppressing sound blankets, use of alternative equipment, and ensuring that all of the equipment is in good working order.

2.4 CONSTRUCTION IMPACTS

Traffic Impacts Related to Construction Activities. It is expected that detailed construction staging plans will be completed for this project, and that a detailed analysis of how traffic will be impacted during the construction phase of the Preferred Alternative will be provided once these plans are available. Meanwhile, a Traffic Management Plan (TMP) will be prepared based on the preliminary stage construction concept that has been developed for the I-405/Arbor Vitae Street New South Half Interchange Project. The purpose of this section is to provide an overview or discussion of the expected traffic impacts related to construction activities. Similar projects have been constructed along Interstate 405 and other freeways within the Los Angeles metropolitan area in the recent past, and it is believed the project will have similar impacts.

The proposed project will not require lengthy closures of freeway facilities in the project area. With a few exceptions, the construction of the new ramps for the proposed new south half interchange will take place adjacent to mainline traffic and can generally be constructed while maintaining traffic on the existing roadway. Therefore, existing mainline, collector road, and ramp will utilize existing lanes with minor restriping work as needed. It is anticipated that detoured traffic on local streets will be minimal. Two sound walls will be constructed, when feasible, during Stage 2 of construction. During State 3 of construction, roadway work may require some intermittent closures of short duration for various freeway facilities in the project area. Table 47 below details preliminary lane closure plans for Build Alternative 2.

Table 47. Preliminary Lane Closure Plans During Construction

		Segment	Lane Number	Work Description
Overall Project	Duration			
Stage 1	3 years	Century Collector Overcrossing	1	Retaining walls will be constructed and a temporary roadway for a northbound collector onramp going over the northbound collector road offramp for detour. A temporary bridge will be constructed to accommodate the detour.
Stage 2	3 years	Century Collector Overcrossing	1	A portion of the new Century Collector Overcrossing will be completely constructed. Northbound Collector onramp traffic will be back to its original alignment and the temporary bridge is removed.
Stage 1	14 days	Southbound Arbor Vitae Onramp Bridge	2	The southbound Interstate 405 onramp from Olive Street will be closed for the needed realigment work.

Source: LA405/Arbor Vitae New South Half Interchange Traffic Management Plan (TMP)

Water Quality Impacts Related to Construction Activities. Pursuant to the Clean Water Act (Section 402), Caltrans has obtained from the State Water Regional Control Board (SWRCB) a National Pollutant Discharge Elimination System (NPDES) permit that regulates storm water discharges from Caltrans facilities. The permit requires Caltrans to maintain and implement an effective Storm Water Management Plan (SWMP) that identifies and describes the BMPs used to reduce or eliminate the storm water runoff discharge of pollutants to waters of drainage conveyances and water bodies. The SWMP is the framework for developing and implementing guidance to meet permit requirements for Caltrans' storm water discharges.

With respect to storm water quality, avoidance and minimization are accomplished by implementation of approved BMPs, which are generally broken down into four categories: Pollution Prevention, Treatment, Construction, and Maintenance BMPs. Certain projects may require installation and maintenance of permanent controls to treat storm water. Selection and design of permanent project BMPs is primarily refined in the next phase of the project: the Plans Specifications and Estimates phase.

During construction activities, Caltrans has a comprehensive program for preventing water pollution via the preparation and implementation of the aforementioned SWPPP and Water Pollution Control Program (WPCP). Caltrans has also developed and obtained the SWRCB approval of numerous BMPs for preventing water pollution during construction. Caltrans construction BMPs, SWPPP, and WPCP also incorporate the requirements of the SWRCB NPDES permit. These actions are implemented jointly by Caltrans and the contractor hired to construct the project, prior to construction.

Potential for Exposure of Workers to Geologic/Soils Hazards During Construction. Currently, there are currently no special considerations of provisions recommended as a result of this project and the geologic conditions in the area, although, workers are subject to implementation and practice of general safety practices within construction zones.

Potential for Detrimental Hazardous Waste Impacts During Construction Activities. The purpose of the Initial Site Assessment (ISA) is to identify, to the extent feasible, hazardous and potential waste problems within and next to the right-of-way and proposed project study area. Based on the results of historical research, review of environmental databases, regulatory agency inquiries, and site reconnaissance, properties were evaluated and classified as High, Moderate, or Low with regard to the potential for detrimental impacts during construction activities for this project.

Table 48. Identified Properties of Concern

Site	Address	Distance from Project Study Area	Description	List(s) that Site Appears on
Bon-Air Freight Company	901 West Arbor Vitae Street Inglewood, CA 90301	1/8 mile to the west	A truck storage/cargo facility with one gasoline underground storage tank	Undergound Storage List (UST)
Hindry Press Inc.	327 South Glasgow Avenue Inglewood, CA 90301	1/8 mile to the west	Warehouse and printing press facility that could generate hazardous waste	Environmental Protection Agency Resource Conservation and Recovery Act (RCRA) List
Marlee Electronics Corporation	900 West Olive Avenue Inglewood, CA 90301	1/8 mile to the west	Electronics manufacturing, repair, and distribution facility that could generate hazardous	Environmental Protection Agency Resource Conservation and Recovery Act (RCRA) List
MS Body and Paint	319 South Glasgow Avenue Inglewood, CA 90301	1/8 mile to the west	Auto body and paint facility that could generate hazardous waste	Environmental Protection Agency Resource Conservation and Recovery Act (RCRA) List
D&K Drive In (Pullman Properties)	937 West Arbor Vitae Street Inglewood, CA 90301	1/8 mile to the west	Restaurant that could generate hazardous waste	Hazardous Waste and Substance Site List/Cortese List
Southern California Edison	8611 South La Cienega Boulevard Inglewood, CA 90301	1/12 mile to the west	Office/industrial facility that has a 5,000 gallon diesel underground storage tank that has leaked fuel.	Undergound Storage List (UST), Leaking Underground Storage (LUST) List

Air Quality and Construction-Related Emissions. Construction activities associated with the proposed project would be temporary and would last the duration of project construction. The discussion below has concluded that project construction would not create adverse pollutant emissions for the build alternative under consideration. Short-term impacts to air quality would occur during minor grading/trenching, new pavement construction and the re-striping phase. Additional sources of construction related emissions include:

- Exhaust emissions and potential odors from construction equipment used on the construction site as well as the vehicles used to transport materials to and from the site; and
- Exhaust emissions from the motor vehicles of the construction crew.

Project construction would result in temporary emissions of Carbon Monoxide (CO), Nitrous Oxide (NO_X), Volatile Organic Compounds (VOC), and Particulate Matter 10 parts per million (PM_{10}). Stationary or mobile-powered on-site construction equipment includes trucks tractors, signal boards, excavators, backhoes, concrete saws, crushing, and/or processing equipment, graders, trenchers, pavers and other paving equipment. The amount of worker trips to the site is unknown at this time. However, given the high volume of traffic in this area, the addition of worker trips will be inconsequential. Based on the insignificant relative amount of daily work trips required for project construction, construction worker trips are not considered to significantly contribute to or affect traffic flow on local roadways and are therefore considered significant. During the demolition phase some asphalt concrete (AC) pavement and curbs and gutters would have to be removed.

In order to further minimize construction-related emissions, all construction vehicles and construction equipment would be required to be equipped with the state-mandated emission control devices pursuant to state emission regulations and standard construction practices. After construction of the project is complete, all construction-related impacts would cease, thus resulting in a less than significant impact. Short-term construction PM_{10} emissions would be further reduced with the implementation of required dust suppression measures outlined within SCAQMD Rule 403 presented in Section 5.5. Note that Caltrans Standard Specifications for construction (Section 10 and 18 [Dust Control] and Section 39-3.06 [Asphalt Concrete Plants]) must also be adhered to. Therefore, project construction is not anticipated to violate State or Federal air quality standards or contribute to the existing air quality violation in the air basin.

Section 93.122(d)(2) of the EPA Transportation Conformity Rule requires that in PM_{10} non-attainment and maintenance areas (for which the SIPs identify construction-related fugitive dust as a contributor to the area problem), the RTIP should conduct the construction-related fugitive PM_{10} emissions analysis. The 2003 PM_{10} SIP/AQMP emissions budgets for SCAB include the construction and unpaved-road emissions. The 2008 RTIP PM_{10} regional emissions analysis includes the construction and unpaved road emissions for conformity finding.

Mitigation of PM_{10} During Construction. The approved 2003 Particulate Matter SIP contains provisions calling for mitigation of PM_{10} emissions during construction. Pursuant §93.117, Caltrans, the project sponsor, is required to stipulate to include, in its final plans, specification, and estimates, control measures that will limit the emission of PM_{10} during construction. Such control plans must be contained in an applicable SIP.

The PM_{10} emissions is a composite of geologic and aerosol variety. The prime concern during construction is to mitigate geologic PM_{10} that occurs from earth movement such as grading. South Coast Air Quality Management District (SCAQMD) sponsored the PM_{10} SIP with concurrence from the California Air Resource Board. SCAQMD has established Rule 403 that addresses the mitigation PM_{10} by reducing the ambient entertainment of fugitive dust and Rule 402 which requires that air pollutant emissions not be a nuisance off-site. Fugitive dust consists of solid particulate matters that becomes airborne due to human activity (i.e. construction) and is a subset of total suspended particulates. Likewise, PM_{10} is a subset of total suspended particulates. The Handbook states that 50% of total particulate matter suspended comprise of PM_{10}. Hence, in mitigating for fugitive dust, emissions of geologic PM_{10} are reduced.

During construction of the project, the property owner//development and its contractors shall be required to comply with regional rules, which shall assist in reducing short-term air pollutant emissions. SCAQMD Rule 402 requires that air pollutant emissions not be a nuisance off-site. SCAQMD Rule 403 requires that fugitive dust be controlled with the best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Two options are presented in Rule 403: Monitoring of particulate concentrations or active control. Monitoring involves a sampling network around the project with no additional control measures unless specified concentrations are exceeded. The active control option does not require any monitoring, but requires that a list of measures be implemented starting with the first day of construction.

Rule 403 requires that “No person conducting active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.”

Rule 403 requires that “Large Projects” implement additional measures. A Large Project is defined as “any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 5,000 cubic yards or more three times during the most recent 365 day period. Depending on the scheduling of grading of the project may be considered a Large Project under Rule 403. Therefore, the project will be required to implement the applicable actions specified in Table 2 of the Rule. As a Large Operation, the project would also be required to:

- Submit a fully executed Large Operation Notification (SCAQMD Form 403N) to the SCAQMD Executive Officer within 7 days of qualifying as a large operation;
- Include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;

- Maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request.

- Install and maintain project signage with project contract signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities.

- Identify a dust control supervisor that is employed by or contracted with the property owner/developer, is on the site or available on-site within 30 minutes during working hours, has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements, and has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class.

- Notify the SCAQMD Executive Officer in writing within 30 days after the site no longer qualifies as a large operation.

Rule 403 also requires that the construction activities "shall not cause or allow PM_{10} levels exceed 5.7 ounces per cubic feet when determined by simultaneous sampling, as the difference between upward and down wind sample." Large Projects that can not meet this performance standard are required to implement the applicable actions specified in Table 3 of Rule 403. Rather than perform monitoring to determine conformance with the performance standard, which will not reduce PM_{10} emissions, the project shall implement all applicable measures presented in Rule 403 Table 3 regardless of conformance with the Rule 403 performance standard. This potentially results in a greater reduction of particulate emissions than if these measures were implemented only after being determined to be required by monitoring.

Further, Rule 403 requires that the project shall not allow "track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation." All track-out from an active operation is required to be removed at the conclusion of each workday or evening shift. Any active operation with a disturbed surface area of five or more acres or with a daily import or export of 100 cubic yards or more of bulk materials must utilize at least one of the measures listed at each vehicle egress from the site to a paved public road. All measures applicable to the construction activities associated with the project should be implemented to the greatest extent possible.

Noise Impacts Related to Construction. During the construction phases of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans standard specifications, Section 7-1-01I, Sound Control Requirements (7). These requirements state that noise levels generated during construction shall comply with applicable local, state, and federal regulations and that all equipment shall be fitted with adequate mufflers according to the manufacturers' specifications.

Figure 2-20 on the next page summarizes typical noise levels produced by construction equipment commonly used on roadway construction projects. As indicated, equipment involved in construction is expected to generate noise levels ranging from 70 to 90 dBA at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of about 6 dBA per doubling of distance. No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans standard specifications and would be short-term, intermittent, and dominated by local traffic noise. Implementing the following measures would minimize temporary construction noise impacts:

- All equipment shall have sound-control devices no less effective than those provided on the original equipment. No equipment shall have an unmuffled exhaust.
- No pile driving, jackhammer and drill or trucks using backup beepers shall be permitted during nighttime hours (9pm to 7am) to minimize disturbance for neighboring residents.

As an alternative to pile driving, please use cast and drill hole method during nighttime hours.

- The "backing-up beeping alarm" of trucks be minimized to the maximum extent or eliminated altogether during nighttime hours (9pm to7am).
- Simultaneous equipment idling noise needs to be minimized to reduce the cumulative construction noise.
- The two proposed sound walls needs to be constructed before all other construction activities begin.
- Caltrans will make it clear to the public during construction that if they feel that the noise levels are excessive, the agency will take noise readings during construction to ensure that noise levels do not exceed 86 dBA at homes located 50 or more feet from the construction zone.
- Caltrans will take action to ensure that noise levels just below 86 dBA will not remain constant.
- As directed by the Engineer, the contractor shall implement appropriate additional noise mitigation measures including, but not limited to, changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, or installing acoustic barriers around stationary construction noise sources.

Figure 2-20. Construction Equipment Noise Levels

Equipment	Maximum Noise Level, 15 m (50 ft) distance
Scrapers	89 dBA
Bulldozers	85 dBA
Heavy trucks	88 dBA
Backhoes	80 dBA
Pneumatic tools	85 dBA
Concrete pump	82 dBA

Source: Federal Transit Administration, 1995

Maintenance of Access During Construction. There will be short-term (temporary) access problems (pedestrian and vehicular) which will result from construction of the proposed project. Thus, these construction impacts are not considered permanent, and are therefore, below the level of significance as defined by CEQA. Funds have been allocated to provide a Traffic Management Plan (TMP), which will be developed and incorporated as part of the project design and prior to the onset of construction to minimize disruption to the existing traffic flow conditions.

A TMP typically serves to notify the motoring public and affected parties of construction dates, activities, and alternate routes (if proposed as part of a project), in an effort to reduce the volume of traffic through the area. The TMP may also provide motorists with alternate routes around any

congestion-related delays. The TMP will consist of the following elements to minimize construction related traffic and access disruption:

1) Temporary traffic controls and signing shall be utilized
2) The implementation of traffic control procedures will be in conformance with the Caltrans Traffic Manual
3) A minimum of two through travel lanes in each direction will be provided
4) Public Information center
5) Additional project signing
6) Advertising in local and regional newspapers
7) Staff attendance at local neighborhood and business association meetings to inform residents and merchants/landowners of project progress

Any bus stops located in the vicinity of the interchange will have to be relocated temporarily during construction since pedestrians will not be allowed in construction areas. The Caltrans will order the resident construction engineer to post notifications prior to each bus stop's relocation. In addition, Caltrans will coordinate efforts with the Metropolitan Transit Authority (MTA), Los Angeles Department of Transportation (LADOT), and all other appropriate transit agencies with operations in the area. A pedestrian traffic detouring plan shall be developed and implemented in order to ensure the safety of pedestrians, as well as to minimize pedestrian traffic disruption.

Additional Public Safety Measures During Construction. Whenever the project contractor's operations create a condition hazardous to the public or traffic, the contract will furnish, erect, and maintain protective fences, temporary railing, barricades, lights, signs, and other devices, and take such other protective measures that are necessary to prevent accidents or damage or injury to the public.

- The contractor shall also furnish flaggers as are necessary to give adequate warning to traffic or to the public of any dangerous conditions to be encountered.
- Construction equipment shall enter and leave the highway via existing ramps and crossovers and shall move in the direction of public traffic. All movement of workmen and construction equipment on or across lanes open to public traffic shall be performed in a manner that will not endanger public traffic.
- Pedestrian openings through falsework shall be paved or provided with full-width continuous wood-walks and shall be kept clear. Pedestrians shall be protected from falling objects and curing water for concrete. All pedestrian openings through falsework shall be illuminated.
- No material or equipment shall be stored where it will interfere with the free and safe passage of public traffic, and at the end of each day's work and at other times when construction operations are suspended for any reason, the contractor shall remove all equipment and other obstructions from that portion of the roadway open for use by public traffic.
- The Build Alternative would take approximately 2 years to construct. Caltrans would stage the work in order to minimize the impact to the traveling motorists as well as the non-motorists. Alternative 2 would impact seven properties, one of which is an unoccupied multi-family residential dwelling.
- Construction work on local streets would require taking (reducing) lanes during the day although access in each direction would still be maintained. At this time, it is not possible to gage how long this would remain. **Caltrans does not permit detour traffic into residential neighborhoods.**
- Construction often requires night work. CALTRANS and the project contractors will conform to all City of Inglewood noise ordinances. At this time, it is not possible to gage how long night work would be required.
- Construction work would be done in stages (in pieces rather than all at once) to allow non-motorists access through the project site during construction. Pedestrian crossings would be maintained through the construction zone.

Caltrans Public Awareness Campaign During Construction of the Preferred Alternative. Prior to the start of construction of Build Alternative 2, Caltrans and/or a Caltrans public relations consultant shall oversee and be responsible for implementation of the following elements of the project's Public Awareness Campaign:

- Coordinate and implement a pre-construction community meeting as well as other construction information meetings as necessary
- Create, operate, and maintain a 1-800 number hotline in which interested individuals would call to find out the latest construction information, as well as, to ask questions and make complaints
- Create and circulate newspaper ads, radio ads, and press releases to announce new detours, road closures, work schedules, staging, and other pertinent construction information.
- Mail construction notice flyers to all residences within a 1 to 2 mile radius of construction zones
- Caltrans will assign a resident engineer to oversee the construction of the project whose phone number will be made available to handle any questions or complaints from the public
- Work in a coordination and advisory role with the construction resident engineer and inspector to ensure that the contractor is implementing correct, accurate, clear, intuitive, and conscientious construction signage throughout the entire project area to ensure motorist and pedestrian safety and convenience
- Work in a coordination and advisory role with the construction resident engineer and inspector to ensure that the contractor immediately eradicates the following within the construction zones: i) homeless persons encampments ii) illegal dumping iii) graffiti iv) and other adverse quality of life issues that could negatively affect the community
- Work in a coordination and advisory role with the construction resident engineer and inspector to ensure that complaints are immediately addressed and the reported problems are immediately eradicated

2.5 CUMULATIVE IMPACTS

Regulatory Setting. Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative effect assessment looks at the collective impacts poised by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitat and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotions of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

CEQA Guidelines, Section 15130, describes when a cumulative impact analysis is warranted and what elements are necessary for adequate discussion of cumulative impacts. The definition of cumulative impacts, under CEQA, can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts, under NEPA, can be found in 40 CFR, Section 1508.7 of the CEQ Regulations.

Cumulative Impacts Related to Construction

Cumulative impacts have been identified that are related to TEMPORARY construction-related activities, and in regard to noise, dust, and access, amongst other activities. Caltrans has established minimization measures and Best Management Practices (BMPs) to ensure compliance with all established standards in the interests of maintaining a healthy environment in the surrounding project area. Caltrans also ensures that this project will not be constructed simultaneously with any other Caltrans project on the I-405 freeway, or simultaneously with any other City of Los Angeles or County of Los Angeles roadway improvement projects in the vicinity of the project area. Other Caltrans improvement projects on Interstate 405 are listed on the following page, complete with construction dates, which may be preliminary, and subject to change at any time.

Other Caltrans Improvement Projects on Interstate 405

EA 1178U1 | Southbound & Northbound Interstate 405 Carpool Lane
Mile Marker: 25.9/29.5
Construct carpool lane from Route 90 to Interstate 10
Construction: 10/2004-3/2010

EA 120300 | Northbound Interstate 405 Carpool Lane
Mile Marker: 28.8/39.0
Construct carpool lane from National Boulevard to Greenleaf Street
Construction: 5/2009-4/2013

EA 1667U4 | Southbound Interstate 405 Carpool Lane
Mile Marker: 31.9/39.7
Construct southbound carpool lane
Construction completed

EA 191004 | Northbound Interstate 405 Auxiliary Lane
Mile Marker: 37.0/39.0
Add auxiliary lane from Mulholland Drive
Construction completed

EA 191304 | Northbound Interstate 405 to Southbound US Route 101 Widening
Mile Marker: 39.0/39.4
Widen northbound I-405 to southbound US-101 connector
Construction completed

EA 195903 | Southbound Interstate 405 Carpool Lane
Mile Marker: 29.8/32.1
From I-10/I-405 Interchange to Waterford Street
Add auxiliary lane, add carpool lane
Construction completed

EA 199611 | Southbound Interstate 405 to US-101 Connector Improvement Project
Mile Marker: I-405: 39.4/40.5, US-101: 17.0/19.4
From southbound I-405 to North and southbound US-101 Freeway
New two-lane 50 miles per hour connector and bridge structure over Sepulveda Dam
Construction: 12/2013-3/2017

EA 199624 | Northbound Interstate 405 Carpool Lane
Mile Marker: 38.8/40.1
Construct carpool lane from Greenleaf to Burbank Boulevard
Construction completed

EA 201203 | Northbound Interstate 405 Gap Closure
Mile Marker: 38.7/39.4
Carpool gap closure with structure
Construction completed

To further avoid significant and cumulative construction-related impacts. Caltrans shall:

- Implement a Public Awareness Campaign for the I-405 at Arbor Vitae Street New South Half Interchange Project as previously mentioned in the construction impacts section. Caltrans and/or a Caltrans public relations consultant shall actively oversee and be responsible for implementation of this campaign.
- All city street improvements/mitigation as discussed in Section 2.1.5 (Traffic and Transportation/Pedestrian and Bicycle Facilities) is expected to be completely within Caltrans and City of Los Angeles right-of-way, and therefore, right-of-way impacts to adjacent residential and business properties is not required, nor expected.
- All city street improvements/mitigation as discussed in Section 2.1.5 (Traffic and Transportation/Pedestrian and Bicycle Facilities) would be properly phased and staged during implementation to ensure that the area does not experience significant, simultaneous, or cumulative construction-related impacts.

Caltrans and the Los Angeles Department of Transportation (LADOT) shall continue to refine the city street improvements/mitigation as discussed in Section 2.1.5 (Traffic and Transportation/Pedestrian and Bicycle Facilities), and shall jointly ensure that all associated impacts are avoided, minimized, and mitigated to the maximum practicable extent in any necessary environmental reevaluation/addendum, to avoid any significant cumulative and construction-related impacts.

2.6 CLIMATE CHANGE

Regulatory Setting. While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. These efforts are primarily concerned with the emissions of GHG related to human activity that include carbon dioxide (CO_2), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 – tetrafluoroethane), and HFC-152a (difluoroethane).

In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. Assembly Bill 1493 requires the California Air Resources Board (CARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year; however, in order to enact the standards California needed a waiver from the U.S. Environmental Protection Agency (EPA). The waiver was denied by EPA in December 2007. See California v. Environmental Protection Agency, 9th Cir. Jul. 25, 2008, No. 08-70011. However, on January 26, 2009, it was announced that EPA will reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a 35.5 mpg fuel economy standard for automobiles and light duty trucks which will take effect in 2012. This standard is the same standard that was proposed by California, and so the California waiver request has been shelved.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

With Executive Order S-01-07, Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

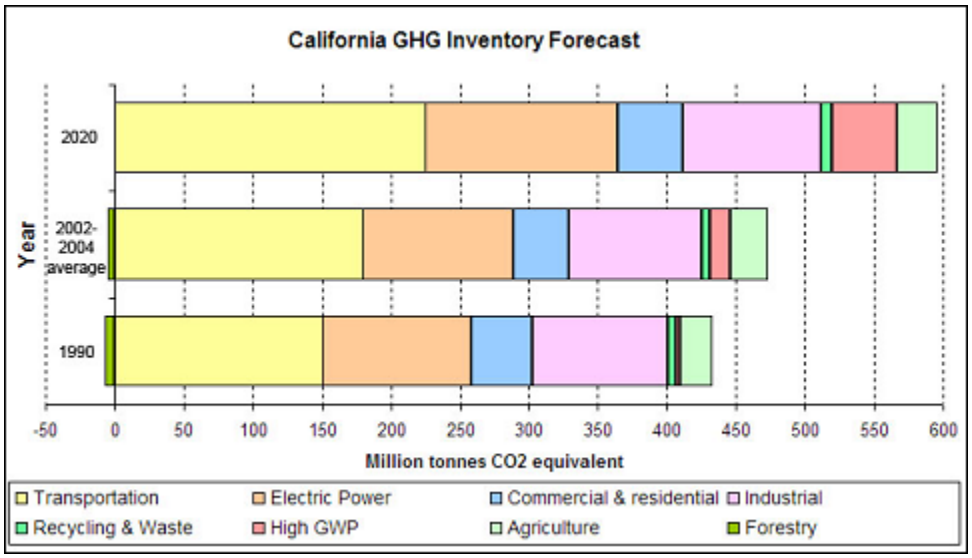
Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change. California, in conjunction with several environmental organizations and several other states, sued to force the U.S. Environmental Protection Agency (EPA) to regulate GHG as a pollutant under the Clean Air Act (Massachusetts vs. Environmental Protection Agency et al., 549 U.S. 497 (2007). The court ruled that GHG does fit within the Clean Air Act's definition of a pollutant, and that the EPA does have the authority to regulate GHG. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting GHG emissions.

According to Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate change in CEQA Documents (March 5, 2007), an individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines

sections 15064(i)(1) and 15130. To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

As part of its supporting documentation for the Draft Scoping Plan, CARB recently released an updated version of the GHG inventory for California (June 26, 2008). Shown below is a graph from that update that shows the total GHG emissions for California for 1990, 2002-2004 average, and 2020 projected if no action is taken (Figure 2-21 California Greenhouse Gas Inventory).

Figure 2-21. California Greenhoues Gas Inventory

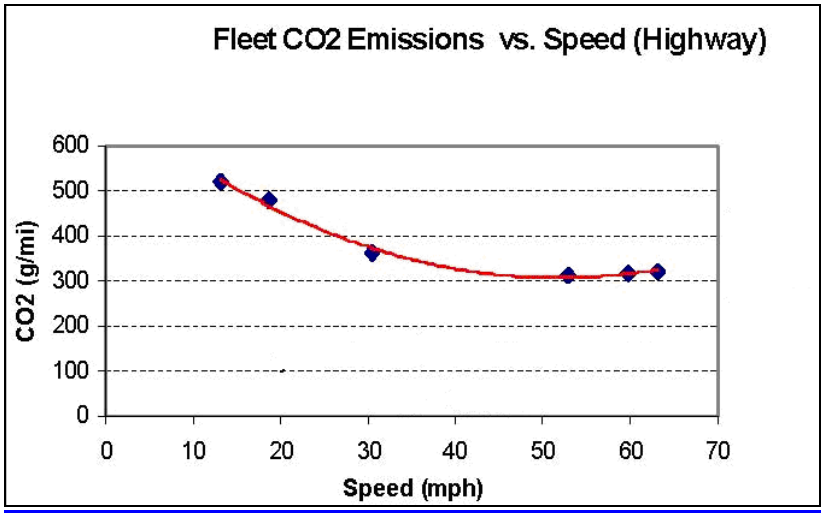


Source: California Air Resources Board (CARB), Greenhouse Gases Inventory for California, June 26, 2008
Taken from: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation (see Climate Action Program at Caltrans (December 2006)), Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006. This document can be found at: http://www.dot.ca.gov/docs/ClimateReport.pdf

Project Analysis. One of the main strategies in Caltrans' Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 mph; the most severe emissions occur from 0-25 miles per hour (see Figure 2-22 below). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors GHG emissions, particularly CO2, may be reduced.

Figure 2-22. Fleet CO2 Emissions vs. Speed (Highway)



Source: Center for Clean Air Policy— http://www.ccap.org/Presentations/Winkelman%20TRB%202004%20(1-13-04).pdf

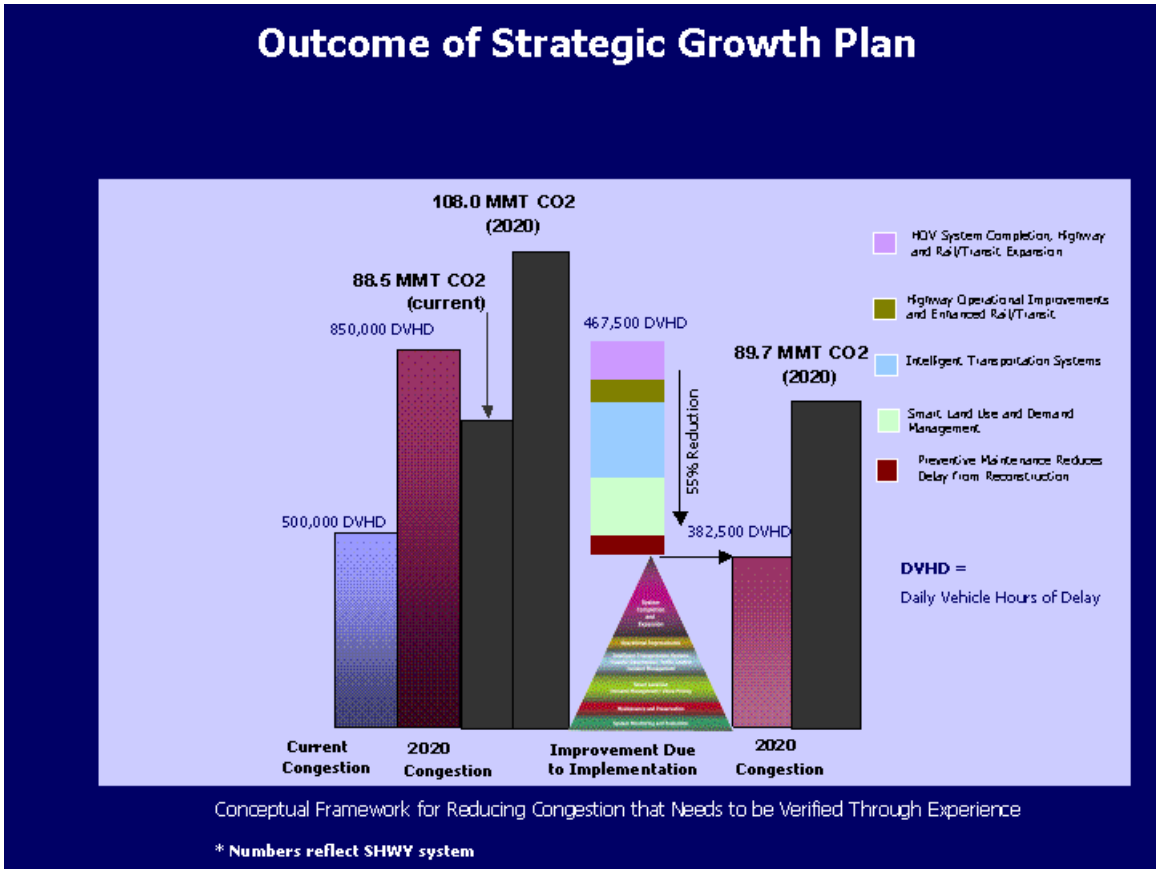
Caltrans recognizes the concern that carbon dioxide emissions raise for climate change. However, accurate modeling of GHG emissions levels, including carbon dioxide at the project level, at the project level is not currently possible. No federal, state or regional regulatory agency has provided methodology or criteria for GHG emission and climate change impact analysis. Therefore, Caltrans is unable to provide a scientific or regulatory-based conclusion regarding whether the project's contribution to climate change is cumulatively considerable.

Construction Emissions. GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

AB32 Compliance. Caltrans continues to be actively involved on the Governor's Climate Action Team as CARB works to implement the Governor's Executive Orders and help achieve the targets in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including $107 million in transportation funding during the next decade. As shown on the figure below, the Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together yield the promised reduction in congestion. The Strategic Growth Plan relies on a complete systems approach of a variety of strategies: system monitoring and

evaluation, maintenance and preservation, smart land use and demand management, and operational improvements. See Figure 2-23 (Outcome of Strategic Growth Plan) below for further information.

Figure 2-23. Outcome of Strategic Growth Plan



As part of the *Climate Action Program at Caltrans* (December 2006, http://www.dot.ca.gov/docs/ClimateReport.pdf), Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks. However it is important to note that the control of the fuel economy standards is held by the United States Environmental Protection Agency and ARB. Lastly, the use of alternative fuels is also being considered; Caltrans is participating in funding for alternative fuel research at the University of California Davis.

Table 49 (Climate Change Strategies) on the following two pages summarizes the Caltrans and statewide efforts that Caltrans is implementing in order to reduce GHG emissions. For more detailed information about each strategy, please see Climate Action Program at Caltrans (December 2006); it is available at: http://www.dot.ca.gov/docs/ClimateReport.pdf .

Relieving congestion by enhancing operations and improving travel times along I-405 and the intersections within and adjacent to the project study area will lead to an overall reduction in greenhouse gas emissions. The Traffic Management Plan protocols developed during the Project Approval and Environmental Document and Construction Phases of this project will help to

reduce construction-related traffic delays. The project's beneficial effect of reducing traffic, vehicle miles traveled and delay time will improve roadway level of service (LOS), mobility and safety and reduce carbon dioxide emissions.

Caltrans recognizes the concern that carbon dioxide emissions create for climate change. Unfortunately, it is not currently possible to model and gauge the project-level impacts associated with an increase in greenhouse gas (GHG) emissions levels such as carbon dioxide. No regional, state, or federal have provided criteria or methodology for GHG emissions for climate change impact analysis. Therefore, Caltrans is unable to provide a regulatory and/or scientific-based conclusion to determine if the project's contribution to climate change is cumulatively significant.

Table 49. Climate Change Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO_2	Savings (MMT)
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	0.007	2.17
Mainstream Energy & GHG into Plans and Projects	Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.45 .0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 .36	3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.67

Source: Climate Action Program at Caltrans (December 2006)
http://www.dot.ca.gov/docs/ClimateReport.pdf

To the extent that it is applicable or feasible for the project and through coordination with the project development team, the following measures will also be included in the project to reduce the GHG emissions and potential climate change impacts from the project:

1. Use of reclaimed water—currently 30% of the electricity used in California is used for the treatment and delivery of water. Use of reclaimed water helps conserve this energy, which reduces GHG emissions from electricity production.
2. Landscaping reduces surface warming, and through photosynthesis, decreases CO2. The project proposes planting in the intersection slopes, drainage channels, and seeding in areas adjacent to frontage roads and planting a variety of different-sized plant material and scattered skyline trees where appropriate but not to obstruct the view of the mountains. Caltrans has committed to planting a minimum of 40 trees. These trees will

help offset any potential CO_2 emissions increase. Based on a formula from the Canadian Tree Foundation[1], it is anticipated that the planted trees will offset between 7-10 tons of $C0_2$ per year.

3. Portland cement—use of lighter color surfaces such as Portland cement helps to reduce the albedo effect and cool the surface; in addition, Caltrans has been a leader in the effort to add fly ash to Portland cement mixes. Adding fly ash reduces the GHG emissions associated with cement production—it also can make the pavement stronger.
4. The project would incorporate the use of energy efficient lighting, such as LED traffic signals. LED bulbs — or balls, in the stoplight vernacular — cost $60 to $70 apiece but last five to six years, compared to the one-year average lifespan of the incandescent bulbs previously used. The LED balls themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the projects CO_2 emissions.[2]
5. Idling restrictions for trucks and equipment. According to Caltrans Standard Specification Provisions, idling time for lane closure during construction is restricted to ten minutes in each direction; in addition, the contractor must comply with South Coast Air Quality Management District's rules, ordinances, and regulations in regards to air quality restrictions.
6. Caltrans and the California Highway Patrol are working with regional agencies to implement Intelligent Transportation Systems (ITS) to help manage the efficiency of the existing highway system. ITS is commonly referred to as electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.
7. In addition, the Los Angeles County Metropolitan Transportation Authority and Caltrans provide ridesharing services and park-and-ride facilities to help manage the growth in demand for highway capacity.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

Climate change adaption must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, Governor Schwarzenegger signed Executive Order S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change.

[1] Candian Tree Foundation at http://www.tcf-fca.ca/publications/pdf/english_reduceco2.pdf. For rural areas the formula is: # of trees/360 x survival rate = tones of carbon/year removed for each of 80 years.

[2] Knoxville Business Journal, "LED Lights Pay for Themselves," May 19, 2008 at http://www.knoxnews.com/news/2008/may/19/led-traffic-lights-pay-themselves/.

The California Resources Agency (now the Natural Resources Agency, (Resources Agency)), through the interagency Climate Action Team, was directed to coordinate with local, regional, state and federal public and private entities to develop a state Climate Adaptation Strategy. The Climate Adaptation Strategy will summarize the best known science on climate change impacts to California, assess California's vulnerability to the identified impacts and then outline solutions that can be implemented within and across state agencies to promote resiliency.

As part of its development of the Climate Adaptation Strategy, Resources Agency was directed to request the National Academy of Science to prepare a *Sea Level Rise Assessment Report* by December 2010 to advise how California should plan for future sea level rise. The report is to include:

- Relative sea level rise projections for California, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates;
- The range of uncertainty in selected sea level rise projections;
- A synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems;
- A discussion of future research needs regarding sea level rise for California.

Furthermore Executive Order S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level affecting safety, maintenance and operational improvements of the system and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Prior to the release of the final Sea Level Rise Assessment Report, all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. However, all projects that have filed a Notice of Preparation, and/or are programmed for construction funding the next five years (through 2013), or are routine maintenance projects as of the date of Executive Order S-13-08 may, but are not required to, consider these planning guidelines. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data (Executive Order S-13-08 allows some exceptions to this planning requirement).

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted as part of Governor’s Schwarzenegger’s Executive Order on Sea Level Rise and is mobilizing to be able to respond to the National Academy of Science report on *Sea Level Rise Assessment* which is due to be released by December 2010. Currently, the Department is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change impacts, the Department has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, the Department will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

This project has been programmed for full funding during the next five years and complies with current adaptation strategies of Caltrans.

CHAPTER 3 | COMMENTS AND COORDINATION

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including: project development team meetings, interagency coordination meetings, scoping meeting, etc. This chapter summarizes the results of Caltrans' efforts to fully identify, address and resolve project-related issues through early and continuing coordination.

Scoping

What is Scoping? Scoping is a process designed to examine a proposed project early in the Environmental Impact Statement/Environmental Impact Report (EIS/EIR) analysis and review process. Scoping is intended to identify the range of issues raised by the proposed project and to outline feasible alternatives or mitigation measures to avoid potentially significant environmental effects. The Scoping process inherently stresses EARLY consultation with local agencies, responsible agencies, review agencies, trustee agencies, cooperating agencies, tribal governments, elected officials, interested/affected individuals, any other stakeholders, and any federal agency whose approval or funding of the proposed project will be required for completion of the project.

Scoping is considered an effective way to bring together and resolve the concerns of other agencies and individuals who may potentially be affected by the proposed project, as well as other interested persons, such as the general public, who might not be in agreement with the action on environmental grounds.

Scoping Procedures for the Proposed Project. At this time, the environmental document for this project is a simple Environmental Assessment/Initial Study (EA/IS), not an EIS/EIR. The California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) regulations do not require an EA/IS to undergo formal Scoping procedures. However, consistent with Caltrans' early involvement philosophy, and in light of the project's vital importance, scoping procedures were undertaken.

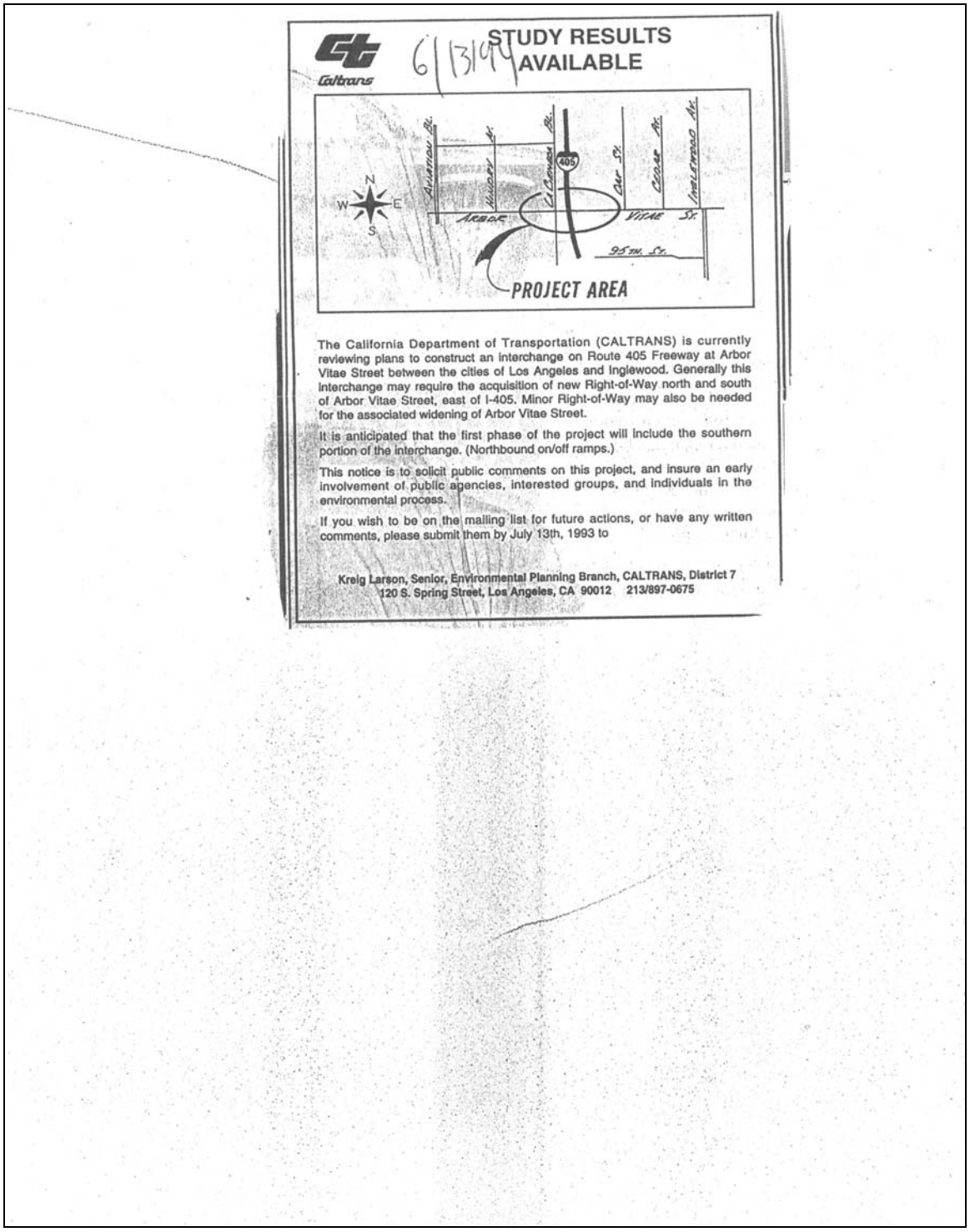
The hope was to ensure that the concerns of ALL stakeholders were known early in the process and incorporated into the environmental analyses and CEQA/NEPA document. During the Scoping period, Caltrans solicited comments and input from all stakeholders and attempted to ensure their early involvement in the project development and environmental process.

When the proposed project was consisting of a full interchange, scoping began in 1981 with the project subsequently placed on hold. In 1994, the scoping process was reinitiated with letters sent to elected officials and government agencies (dated June 22, 1994). In addition, public scoping notices (Figure 8) were placed in the following newspapers: *Los Angeles Times* (June 13, 1994), *La Opinion* (June 13, 1994), and *The Los Angeles Sentinel* (June 16, 1994). As shown in Figure 8, the notices described the proposed project and provided an office address and phone number for anyone interested in being added to the mailing list. Comments were received until July 13, 1994. General comments received during scoping consisted of:

- Concerns regarding traffic congestion and mitigation
- Support for the project
- Opposition to the project
- Concerns regarding construction impacts
- Concerns by local property owners
- Business owner concerns

- Traffic issues near Westchester Neighborhood School (located near Arbor Vitae St. and Isis Ave.).

Figure 3-01. Scoping Notice



Caltrans

6/13/94

STUDY RESULTS AVAILABLE

The California Department of Transportation (CALTRANS) is currently reviewing plans to construct an interchange on Route 405 Freeway at Arbor Vitae Street between the cities of Los Angeles and Inglewood. Generally this interchange may require the acquisition of new Right-of-Way north and south of Arbor Vitae Street, east of I-405. Minor Right-of-Way may also be needed for the associated widening of Arbor Vitae Street.

It is anticipated that the first phase of the project will include the southern portion of the interchange. (Northbound on/off ramps.)

This notice is to solicit public comments on this project, and insure an early involvement of public agencies, interested groups, and individuals in the environmental process.

If you wish to be on the mailing list for future actions, or have any written comments, please submit them by July 13th, 1993 to

Kreig Larson, Senior, Environmental Planning Branch, CALTRANS, District 7
120 S. Spring Street, Los Angeles, CA 90012 213/897-0675

Public Meeting

A public meeting was held on July 6, 2000 at Inglewood City Hall, in the City of Inglewood. The meeting was held to give the public opportunity to get familiar, ask questions and comment on various aspects of the full interchange project. As part of the public circulation process, letters to elected officials, government agencies and interested individuals were sent (June 7, 2000). Additionally, Public Notices were published in the *Los Angeles Times-South Bay Section*, (June 8 & 29, 2000), *La Opinion* (June 7 & 26, 2000), *The Daily Breeze* (June 6 & 26, 2000), and the Rapid Publishing Newspaper Group (June 7 & 28, 2000), a service that places special emphasis in the African American community.

At the public meeting numerous individuals submitted comment cards to Caltrans. General issues discussed at the public meeting consisted of:

- Support for the project
- Opposition to the project
- Expansion of Los Angeles International Airport
- Air quality concerns
- Noise Concerns
- Additional property acquisition concerns
- Adequacy of the Draft Initial Study/Environmental Assessment
- Concerns over the use of Oak Street Elementary School
- Concerns over possible Title VI violations
- Traffic concerns

Comments Received Public Circulation

A total of 25 comment letters and approximately 92 comment cards were received during the comment period. The official public comment period was from June 6, to July 21, 2000. However based on requests from the Inglewood Unified School District and the LAXEN (LAX Expansion No) group, the comment period was extended to July 28, 2000. Additionally, the LAXEN group submitted three (3) opposition petitions ("Petition to California Department of Transportation" **900 signatures**, "Community Objection Letter" **313 signatures**, and Declaration of Health Concerns **341 signatures**) each containing signatures from area residents (many identical signatures can be found on all three petitions). Samples of each petition can be found in Appendix VII. Copies of the all comment letters are also provided in Appendix VII. Comment letters were received from the following:

- Dr. Steve Smith (South Coast Air Quality Management District)
- Mr. George F. Gerard
- Mr. Tony Cerda
- Mr. Mike Elder (2)
- Mrs. Charles Heath
- Mr. Marcus Deemer
- Mr. James T. Blomquist (Sierra Club Representative)
- Mr. Roy Hefner (LAX Airport Area Advisory Committee)
- Dr. James Harris, Mrs. Alice Grigsby (Inglewood Unified School District)
- Mrs. Elizabeth Khoury
- Shute, Mihaly & Weinberger LLP, Christy H. Taylor (representing City of El Segundo)
- Mr. David Yamahara (Los Angeles County Public Works)
- Terry Roberts (Governor's Office of Planning and Research)
- Mrs. Diane Sambrano
- Mr. Charles A. DeDeurwaerder
- Bahram Fazeli, Communities for a Better Environment
- Michael A. Rembis, FACHE, Chief Executive Officer, Centinela Hospital

- Adam Miller, Managing Director, Great Western Forum
- Donald H. Eiesland, President/CEO, Inglewood Park Cemetary
- Tom Bowling, Vice President & General Manager, Hollywood Park Casino
- Rick Baedeker, President, Hollywood Park
- G. Michael Finnigan, President, Realty Investment Group, Inc.
- Jay W. Kim, Senior Transportation Engineer, Los Angeles Department of Transportation
- Susan Baker Ducey, Vice President, Business Planning & Community Development, Daniel Freeman Hospitals Inc.

Figure 3-02. Public Hearing Notice

A public hearing to discuss the current project will be held in late January 2010. The public hearing court reporter transcript and public hearing informational materials will be included in the appendices of the Final Draft of this environmental document.

Consultation and Coordination

PID Phase of the Project. The Project Initiation Document (PID) phase of the project is the time during which the project's feasibility, schedule, cost, impacts, and design alternatives are studied at a preliminary and conceptual level. Coordination with the project's primary stakeholders begins during this phase. In this case, the project began this phase in cooperation with the Los Angeles Department of Airports (LADOA) in June 1976 when the LADOA sent a letter to Caltrans stating that the construction of the Arbor Vitae Interchange could reduce congestion along Century Boulevard and Manchester Boulevard and provide direct access to Los Angeles International Airport (LAX).

Value Analysis Phase of the Project. Value Analysis (VA) or Value Engineering (VE) is a function-oriented, structured, multi-disciplinary team approach to solving problems or identifying improvements. The goal of any VA Study is to: Improve value by sustaining or improving performance attributes (of the project, product, and/or service being studied) while at the same time reducing overall cost (including lifecycle operations and maintenance expenses).

During this phase of the project, multi-agency, multi-disciplinary team was assembled to study the existing alternatives alongside Caltrans, propose new design alternatives, and drop existing design alternatives as necessary. This phase was conducted on the following dates: April 24, May 22 through 26, and July 18, 2006.

The stakeholders whom were invited and attended were representatives of the City of Inglewood Public Works Department, the City of Los Angeles Department of Transportation, the Los Angeles County Metropolitan Transportation Authority. Below and on the next page is Table 50, the Value Analysis Attendance Grid.

Table 50. Value Analysis Attendance Grid

MEETING ATTENDEES *LA 405 South Half Arbor Vitae Interchange*									Caltrans
2006 May					July	NAME	ORGANIZATION	POSITION	TELEPHONE / FAX / E-MAIL
22	23	24	25	26	18				
X	X	X	X	X	X	Fred Kolano	Value Management Strategies, Inc.	VA Study Team Leader	970 216-1739 (C) 242-5531 (O) fred@vms-inc.com
X	X	X	X	X		Tomas Carranza	LADOT	Transportation Engineer	310 642-1624 213 485-1285 tcarranz@dot.lacity.org
X	X	X	X	X		Eck Chaiboonma	MTA	Project Manger	213 922-3014 chaiboonmae@metro.net
X	X	X	X	X		Daniel Cortez	Caltrans District 7	Project Studies	213 897-5402 Dan_cortez@dot.ca.gov
X	X	X	X	X		Sarah Horn	Caltrans District 7	DTM	213 897-5631 Sarah_horn@dot.ca.gov
X	X	X	X	X	X	Andrew Rittenhouse	Caltrans HQ ESC	Structures Design	916 227-8241 Andrew_rittenhouse@dot.ca.gov
X	X	X	X	X		Marlon Sarmiento	Caltrans District 7	Maintenance Design	213 897-4215 Marlon_sarmiento@dot.ca.gov
X	X	X	X	X		Zarif Saykali	Caltrans District 7	Construction	310 649-1821 Zarif_saykali@dot.ca.gov
X	X	X	X	X		Barney Vorreiter	Caltrans District 7	Design	855 555-3118 Barney_vorreiter@dot.ca.gov

MEETING ATTENDEES *LA 405 South Half Arbor Vitae Interchange*									Caltrans
2006 May					July	NAME	ORGANIZATION	POSITION	TELEPHONE / FAX / E-MAIL
22	23	24	25	26	18				
X	X	X	X	X	X	James Vu	Caltrans District 7	Project Studies	213 897-0116 James_Vu@dot.ca.gov
X	X	X	X	X	X	John Vassiliades	Caltrans District 7	Project Manager	213 897-7395 John_vassiliades@dot.ca.gov
X			X	X	X	Mario Gutierrez	Caltrans District 7	Design Manager	213 897-0512 Mario_gutierrez@dot.ca.gov
X	X		X	X	X	James Tucker	Caltrans District 7	Design	213 897-0679 James_tucker@dot.ca.gov
				X		James Okazaki	LADOT	Assistant General Manager	213 897-8426 972-8410 jokazaki@dot.lacity.org
				X		Renee Berlin	MTA	Director South Bay Area Planning Team	213 922-3055 berlinr@metro.net
			X		X	Jim DeLuca	Caltrans HQ Design	Project Development Coordinator	916 653-4067 Jim_Deluca@dot.ca.gov
X						Jason Roach	Caltrans District 7	Environmental Planning	Jason_roach@dot.ca.gov
X	X	X	X	X	X	Jamal El-Jamal	Caltrans District 7	District VA Coordinator	213 897-0479 Jamal_k_El-jamal@dot.ca.gov

Table 50. Value Analysis Attendance Grid continued

MEETING ATTENDEES *LA 405 South Half Arbor Vitae Interchange*									Caltrans
2006 May					July	NAME	ORGANIZATION	POSITION	TELEPHONE / FAX / E-MAIL
22	23	24	25	26	18				
X	X	X	X	X	X	Massoud Nabifar	Caltrans District 7	VA Coordination	213 897-0994 Massoud_Nabifar@dot.ca.gov
X	X	X	X	X	X	Duke Nguyen	Caltrans District 7	VA Support	213 897-4195 Duke_Nguyen@dot.ca.gov
				X		William Barnett	City of Inglewood Public Works	Senior Transportation Planner	310 412-5333 wbarnett@cityofinglewood.org
				X		Charng Chen	City of Inglewood Public Works	Transportation Engineering Manager	310 412-4316 cchen@cityofinglewood.org
			X			Bob Chapman	Caltrans HQ Design	Design Reviewer	916 897-0137 Bob_chapman@dot.ca.gov
				X		Jarrel Kam	Caltrans District 7	Design Supervisor	213 897-0137 Jerrel_B_Kam@dot.ca.gov
				X		Elaheh Yadegar	Caltrans District 7	OPSS	213 897-9635 Elaheh_yadegar@dot.ca.gov
				X		Raja Mitwasi	Caltrans District 7	Deputy District Director	213 897-0362 897-0360 Raja_mitwasi@dot.ca.gov
					X	John Njorogf	Caltrans District 7	Right of Way Coordinator	213 897-1685 John_njorogf@dot.ca.gov

Pre-Scoping Phase of the Project. This project was first proposed in 1980 and to be constructed in 1984. However, there is no record of specific actions prior to the Scoping Phase that occurred in 1994 of the project except for the June 1976 letter that LADOA sent to Caltrans proposing the construction of the Arbor Vitae Interchange.

Scoping Phase of the Project. During the Scoping phase of the project, Caltrans conducted the following outreach efforts discussed previously in the Scoping Procedures of this document earlier in Chapter 3 Comments and Coordination.

Post-Scoping Phase of the Project. The Scoping phase of the project was completed in 1994 and no additional outreach efforts were performed by Caltrans staff. Correspondence between stakeholders and Caltrans staff can be viewed in the appendences section of this document.

Draft EA/IS Public Comment Period and Public Hearing. At this time, Caltrans has sent this Draft EA/IS to all of the project stakeholders discussed in the aforementioned Scoping section, as well as the numerous new individuals that were added to the project mailing list during the previous Public Comment Period in 2000 and 2006. To view the project mailing list, please refer to the appendices section of this document.

Caltrans is soliciting questions, comments, and concerns from all stakeholders regarding the proposed project and its potential environmental and community impacts as discussed in this Environmental Assessment/Initial Study. The Department will also hold a public hearing on December 2, 2009 so that all stakeholders may voice their questions, comments, and concerns in person. All written comments received during the Public Comment Period, as well as verbal comments made at the public hearing, will be considered formal comments and will become part of the public record.

The Draft EA/IS and Availability Notification letters and newsletters shall be sent to all stakeholders listed in the project mailing list located in the appendices section of this environmental document Draft EA/IS Availabilty Notification newspaper ads will run in the same newspapers that were used during the previous Public Comment Period and Public Hearing phase of the project in 2000.

The Draft EA/IS Availability Notification letters, newsletters, and newspaper ads will provide all the specific details as they did during the Scoping phase of the project.

The following activities were taken by Caltrans staff and the Consensus Consulting Incorporated Group in 2009:

- Elected official briefing on June 17, 2009 Session #1- Staff for Councilmember Morales and Sen. Rod Wright
- Elected official briefing on June 17, 2009 Session #2- Staff for Councilmember Rosendahl and Supervisor Mark Ridley-Thomas, Mayor Dorn, and City of Inglewood Councilmember Morales on July 9, 2009
- City of Inglewood Planning Director Wanda Williams and staff on July 29, 2009
- Inglewood Councilmember Morales Right-of-Way briefing on July 29, 2009
- Community Walk Report and Log - July 29, July 31 and August 5, 2009
- Walk of impacted properties within Right-of-Way
- Walk of businesses along Arbor Vitae
- Meeting with Inglewood Unified School District Superintendent Joice Lewis and Chief Operating Officer/Facilities Director Robert Guillen October 1, 2009
- Meeting with Area Homeowners Associations and Area Chambers of Commerce October 1, 2009
- Oak Street Elementary School Principal Richard Barter presented project information and the fact sheet provided by Consensus Incorporated to the Oak Street Elementary School PTA Meeting on October 24, 2009.

CHAPTER 4 | LIST OF PREPARERS

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CHAPTER 5 | DISTRIBUTION LIST

APPENDICES

APPENDIX A: CEQA CHECKLIST

ENVIRONMENTAL SIGNIFICANCE CHECKLIST

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACTS answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included in Section VI following the checklist. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	X	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	X
II. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	X
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	X
III. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	X
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	X
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	X
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	X
IV. BIOLOGICAL RESOURCES -- Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	X
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	X
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	X
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	X	☐
ii) Strong seismic ground shaking?	☐	☐	X	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	X	☐
iv) Landslides?	☐	☐	☐	X
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS –				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	X	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	X	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	X
VIII. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	X
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	X
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	X
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	X
f) Otherwise substantially degrade water quality?	☐	☐	☐	X
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	X
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	X
IX. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?	☐	☐	X	☐
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	X
X. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XI. NOISE –				
Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				X
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				X
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?		X		
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		X		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X
XII. POPULATION AND HOUSING -- Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?			X	
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?			X	

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	X
Police protection?	☐	☐	☐	X
Schools?	☐	☐	☐	X
Parks?	☐	☐	☐	X
Other public facilities?	☐	☐	☐	X
XIV. RECREATION –				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	X
XV. TRANSPORTATION/TRAFFIC -- Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☐	X
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	X
e) Result in inadequate emergency access?	☐	☐	☐	X
f) Result in inadequate parking capacity?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒
XVI. UTILITIES AND SERVICE SYSTEMS –				
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒
XVII. MANDATORY FINDINGS OF SIGNIFICANCE –				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings?	☐	☒	☐	☐

APPENDIX B: TITLE VI POLICY STATEMENT

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
1120 N STREET
P. O. BOX 942873
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY (916) 653-4086

Flex your power!
Be energy efficient!

August 25, 2009

TITLE VI
POLICY STATEMENT

The California State Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

Randell H. Iwasaki

RANDELL H. IWASAKI
Director

"Caltrans improves mobility across California"

APPENDIX C: SUMMARY OF RELOCATION BENEFITS

California Dept. of Transportation Relocation Assistance Program

RELOCATION ASSISTANCE ADVISORY SERVICES

The California Department of Transportation ("Caltrans") will provide relocation advisory assistance to any person, business, farm or non-profit organization displaced as a result of the Caltrans' acquisition of real property for public use. The Department will assist displacees in obtaining replacement housing by providing current and continuing information on the availability and prices of houses for sale and rental units that are comparable, "decent, safe, and sanitary." Non-residential displacees will receive information on comparable properties for lease or purchase. For information on business, farm and non-profit organization relocation, refer to Section III, "Business and Farm Relocation Assistance Program."

Residential replacement dwellings will be in equal or better neighborhoods, at prices within the financial means of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, displaces will be offered comparable replacement dwellings that are open to all persons regardless of race, color, religion, sex, national origin, and are consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include supplying information concerning federal and state assisted housing programs and any other known services being offered by public and private agencies in the area.

RESIDENTIAL RELOCATION PAYMENTS PROGRAM

The Relocation Payments Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for, or incidental to, purchasing or renting the replacement dwelling and actual reasonable moving expenses to a new location within 50 miles of the displacees' property. Any actual moving costs in excess of the 50-mile limit will be the responsibility of the displacees. The Residential Relocation Program is summarized below:

Moving Costs
Any displaced person, who was lawfully in occupancy of the acquired property regardless of the length of occupancy in the acquired property, will be eligible for reimbursement of the moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule which is determined by the number of furnished or unfurnished rooms in the displacement dwelling.

Purchase Supplement
In addition to moving and related expense payments, eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their properties for 180 days prior to the date of the first written offer to purchase the property, may quality to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate. Also, the interest differential must be based upon the lower of either: 1) the loan on the displacement property, or 2) the loan on the replacement property. The maximum combination of these

supplemental payments that the owner-occupants can receive is $22,500. If the total entitlement (without the moving payments) is in excess of $22,500, the Last Resort Housing Program will be applied. Please refer to the synopsis of Last Resort Housing below.

Rental Supplement

Tenants who have occupied the property to be acquired by Caltrans for 90 days or more and owner-occupants of 90 to 179 days *prior to the date of the first written offer to purchase* may qualify to receive a rental differential payment. This payment is made when the department determines that the cost to rent a comparable "decent, safe and sanitary" replacement dwelling would be more than the present rent of the acquired dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the "Down Payment" section below. The maximum payment to any tenant of 90 days or more and any owner-occupant of 90 to 179 days, in addition to moving expenses, will be $5,250. If the total entitlement for rental supplement exceeds $5,250, the Last Resort Housing Program will be used. Please refer to the Last Resort Housing clarification below.

The displaced person must rent and occupy a "decent, safe and sanitary" replacement dwelling within one year from the date the department takes legal possession of the property, or from the date the displace vacates the department-acquired property, whichever is later.

Down Payment

The down payment option has been designed to aid owner-occupied of 90 to 179 days and tenants with no less than 90 days of continuous occupancy prior to the Caltrans' first written offer. The down payment and incidental expenses cannot exceed the maximum payment of $5,250. The one year eligibility period during which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

Last Resort Housing

Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on federal aid projects. Caltrans, in order to maintain uniformity in the program, has also adopted these federal guidelines on non-federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard relocation as explained above and on the previous page. Last Resort Housing has been designed primarily to cover situations where available comparable housing, or when their anticipated replacement housing payments exceed the $5,250 and $22,500 limits of standard relocation procedures. In certain exceptional situations, Last Resort Housing may also be used for tenants of less than 90 days.

After the first written offer to acquire the property has been made, Caltrans will, within a reasonable length of time, personally contact the displaces to gather important information relating to: preferences in areas of relocation; the number of people to be displaced and the distribution of adults and children (according to age and gender); location of schools and employment; special arrangements necessary to accommodate disabled family members; and the financial ability to relocate to a comparable replacement dwelling which will house all members of the family decently.

The above explanation is general in nature and is not intended to be a complete explanation of relocation regulations. Any questions concerning relocation should be addressed to Caltrans. Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displaced household in order to see that all payments and benefits are fully

utilized, and that all regulations are observed, thereby avoiding the possibility of displaces jeopardizing or forfeiting any of their benefits or payments.

See http://www.dot.ca.gov/hq/row/pubs/residential_english.pdf and http://www.dot.ca.gov/hq/row/pubs/residential_spanish.pdf in English and Spanish, respectively, for links to the Relocation Assistance for Residential Relocation Brochure.

THE BUSINESS AND FARM RELOCATION ASSISTANCE PROGRAM

The Business and Farm Relocation Program provides for aid in locating suitable replacement property and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for specific relocation needs.

There are different types of payments available to businesses, farms, and non-profit organizations. These include: moving expenses, which consist of actual reasonable costs (as listed) for:

- The relocation of inventory, machinery, office equipment, and similar business-related personal property; dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting personal property.

- Loss of tangible personal property provides payment to relocate for “actual direct” losses of personal property that the owner elects not to move.

- Expenses related to searching for a new business site can be reimbursed up to $1,000 for actual reasonable cost incurred.

- Reestablishment relating to the new business operation.

Payment “in lieu” of moving expense is available to businesses which are expected to suffer a substantial loss of existing patronage as a result of the displacement, or if certain other requirements such as inability to find a suitable relocation are met. This payment is an amount equal to the average annual net earnings for the last two taxable years prior to relocation. Such payment may not be less than $1,000 or no more than $20,000.

See http://www.dot.ca.gov/hq/row/pubs/business_farm.pdf and http://www.dot.ca.gov/hq/row/pubs/business_sp.pdf since the project requires relocation of a business.

ADDITIONAL INFORMATION

Reimbursement for moving costs and replacement housing payments are not considered as income for the purpose of the Internal Revenue Code of 1954, or sources for the purpose of determining the extent of eligibility of the displacees for assistance under the Social Security Act, local Section 8 housing programs, or other federal assistance programs.

Persons who are determined to be eligible for relocation payments, and are legally occupying the property required for the project will not be asked to move without being given at least 90 days advance notice, in writing. Occupants of any type of dwelling eligible for relocation payments will not be required to move unless at least one comparable "decent, safe and sanitary" replacement residence, open to all persons, regardless of race, color, religion, sex or national origin, is available or has been made available to them by the state.

Any person, business, farm or non-profit organization which has been refused a relocation payment by Caltrans, or believes that the payments are inadequate, may appeal for a special

hearing before a hearing officer or the Caltrans' Relocation Assistance Appeals Board of the complaint. No legal assistance is required; however, the displacee may choose to obtain legal council at his/her expense. Information about the appeal procedure is available from the Caltrans' Relocation Advisors.
The information above is not intended to be a complete statement of all of the Caltrans' laws and regulations. At the time of the first written offer to purchase, owner-occupants are given a more detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted immediately after the first written offer to purchase, and also given a more detailed explanation of the Caltrans' relocation programs.

IMPORTANT NOTICE

To avoid loss of possible benefits, no individual, family, business, farm or non-profit organization should commit to purchase or rent a replacement property without first contacting a Department of Transportation relocation advisor at:

State of California
Department of Transportation, District # 7
100 South Main Street
Los Angeles, California 90012-70

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